Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96 Test oil : ISO 4113

Combination No. : 0 402 646 762

Injection pump

Pump designation : PE6P120A320LS7834

: -10

EP type number : 0 412 626 853

Governor

Governer design. : RQV300...1050PA1033

: -18

Governer no. : 0 421 814 136

Cust. part No. : 0260743602

Customer—spec. information Customer : MB-NFZ Motor : OM401 LA Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Tolerance l/h: + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.25 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1-

Phasing : 0-60-120-180-240

: -300-360

Tolerance : +- 0.30

Check

tolerance NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance \*NW : +- 0.75

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80

Tolerance mm : +- 0.05

Del. quantity	1	guide sleeve	
cm3/1000 strokes : 2	230.0	travel mm	: 6.13
	1	Tolerance mm	: +- 0.25
Tolerance		roter divice illin	0.23
cm3/1000 strokes : +-	1.0	Rated speed rpm	: 1183
	1	guide sleeve	
Check tolerance		travel mm	: 10.00
cm3/1000s. : +-	4.0	Tolerance mm	: +- 0.25
CIIIO / 100001	1	TOTAL TOTAL	
Spreed		Rated speed rpm	: 1280
Tolerance	1	guide sleeve	, , , , ,
cm3/1000 strokes :	5.0	travel mm	: 11.50
	1	Tolerance mm	: +- 0.50
Check tolerance			
cm3/1000s. :	9.0		
	1	GUIDE SLEEVE POSIT	ION
Rated speed rpm : 3	300		
	1	Rated speed rpm	: 1145
Rack travel in mm :	6.30 ↓		
Tolerance mm : +-		Rack travel in mm	: 13.80
Del. quantity	1	Tolerance mm	
	13.0		
Tolerance	+		
cm3/1000 strokes : +-	3.0	FULL LOAD DELIVERY	AT FULL LOAD STOP
Check tolerance	+		
cm3/1000s. : +-	6.0	Rated speed rpm	: 550
Spreed	+	Aneroid pressure	
Tolerance	+	_	: 1000
cm3/1000 strokes :	6.0	Del. quantity	
Check tolerance	+	cm3/1000 strokes	: 230.0
cm3/1000s. :	10.0	Tolerance	
	+	cm3/1000 strokes	: +- 1.0
	+	Check tolerance	
(B) SETTING OF INJECTION	PUMP +	cm3/1000s.	: +- 4.0
WITH GOVERNOR	+	Spreed	
	+	Tolerance	
	+	cm3/1000 strokes	: 5.0
GUIDE SLEEVE TRAVEL	+	Check tolerance	
	+	cm3/1000s.	: 9.0
Rated speed rpm : 3	00 +		
guide sleeve	+		
travel mm :			
Tolerance mm : +-	0.20 +	CONTROL LEVER	
	+		
Rated speed rpm : 110	08 +	control lever	
guide steeve	+	position degree	
travel mm :		tolerance degree	: +- 4.0
Tolerance mm : +- 1	0.15		
	†	RATED SPEED	
Rated speed rpm : 5	58 +		47.00
guide sleeve	, ==	rack travel mm	
	4.53 +	Rated speed rpm	
Tolerance mm : +- (	u.25 †	Tolerance 1/min	: +- 5
	†		
Rated speed rpm : 60	ns +		: 4.00
guide sleeve	+		: 1195
	5.03 +	Tolerance 1/min	: +- 15
Tolerance mm : +- (	U.25 †		0.75
	t	rack travel mm	0.75
Rated speed rpm : 82	20 +	Tolerance mm	: +- U./5

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Rated speed rpm	: 1300	rack travel mm Tolerance mm	: +- 0.20
LOW IDLE		Pressure hPa rack travel mm Tolerance mm	: 600 : 14.15 : +- 0.20
control lever position degree tolerance degree		START CUT-OUT	. > 100
Testing:		Rated speed rpm Rated speed rpm	: < 220
Rated speed rpm rack travel mm Tolerance mm	: 5.20	Check speed 1/min Check speed 1/min	
Rated speed rpm	: 200	+ speed //min	; < 240
CRT mm min.	: > 7.00	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 350	Aneroid pressure hPa Rated speed rpm	: 1000 : 1050
TORQUE CONTROL		Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm Folerance mm	: 14.80	Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm	: 1050 : 14.80	cm3/1000s. + Spreed + Tolerance - cm3/1000 strokes	
ated speed rpm ack travel mm olerance mm	: 700 : 14.80	Check tolerance cm3/1000s.	
		hPa Rated speed rpm	: – : 500
NEROID/ALTITUDE OMPENSATOR TEST		Del. quantity cm3/1000 strokes Tolerance	: 129.0
ETTING		cm3/1000 strokes Check tolerance	: + 1.0
Rated speed rpm	: 400 : 1000	cm3/1000s. Spreed Tolerance	: +- 4.0
ressure nra rack travel mm rolerance mm	: 14.80 : +- 0.05	cm3/1000 strokes Check tolerance	: 8.0
EASUREMENT	0.05	cm3/1000s.	: 12.0
ressure hPa lated speed rpm rack travel mm	: 10.50	BREAKAWAY	
olerance mm	: +- 0.15	+ Rack travel in mm + Rated speed rpm	
ated speed rpm	: 400	Tolerance 1/min	
ressure hPa	: 400	+	

A03

## STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

## LOW IDLE

Rated speed rpm : 300 rack travel mm 6.30 : +- 0.30 Tolerance mm Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 : +-Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 05.03.96 : ISO 4113

Combination No. : 0 402 646 763

Injection pump

Pump designation : PE6P12OA32OLS7834

: -10

EP type number : 0 412 626 853

Governor

Governer design. : RQV300...1050PA1065

: -2

Governer no.

: 0 421 814 135

Cust. part No. : 0260743702

Customer-spec. information Customer : MB-NFZ : 0M401 LA Motor Power KW

: 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0 temp. °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25
Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 20.50 Tolerance mn:  $\leftarrow$  0.50

Firing order : 6-3-5-2-4-

: 1

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance \*NW : +- 0.75

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80 Tolerance  $m_0$ :  $\leftarrow 0.05$ 

Del. quantity

cm3/1000 strokes : 230.0

Tolerance cm3/1000 strokes : +-	1.0	Rated speed rpm : 1310 guide sleeve	
Check tolerance cm3/1000s. : +-	4.0	travel mm : 13.50 Tolerance mm : +- 0.50	
Spreed Tolerance cm3/1000 strokes :	5.0	GUIDE SLEEVE POSITION	
Check tolerance cm3/1000s.	9.0	Rated speed rpm : 1200  Rack travel in mm : 13.80	
Rated speed rpm :	+	Tolerance mm : + 1.30	
Rack travel in mm :	6.30	FULL LOAD DELIVERY AT FULL LOAD	STOP
Tolerance mm : +- Del. quantity cm3/1000 strokes :	+	Rated speed rpm : 550 Aneroid pressure	
Tolerance cm3/1000 strokes : +-	3.0	hPa : 1000 Del. quantity	
Check tolerance cm3/1000S. : +- Spreed	6.0	cm3/1000 strokes : 230.0 Tolerance cm3/1000 strokes : +- 1.0	
Tolerance cm3/1000 strokes :	6.0	Check tolerance cm3/1000s. : +- 4.0	
Check tolerance cm3/1000S. :	10.0	Spreed Tolerance cm3/1000 strokes : 5.0	
(B) SETTING OF INJECTIO	N PUMP	Check tolerance cm3/1000s. : 9.0	
WITH GOVERNOR	+		
GUIDE SLEEVE TRAVEL	<u> </u>	CONTROL LEVER	
Rated speed rpm : guide sleeve travel mm :	1.13	control lever position degree : 104.0 tolerance degree : +- 4.0	
Tolerance mm : +-	0.25	RATED SPEED	
	108		
guide sleeve travel mm :	9.82	rack travel mm : 13.80 Rated speed rpm : 1095	
travel mm : : Tolerance mm : +-	9.82 0.25	Rated speed rpm : 1095 Tolerance 1/min : +- 5	
travel mm : Tolerance mm : +-  Rated speed rpm : guide sleeve	370	Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1195	
travel mm : Tolerance mm : +  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-	0.25 370 2.00 0.25	Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15  rack travel mm : 0.75	
travel mm : Tolerance mm : +-  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : guide sleeve	0.25 370 2.00 0.25 420	Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15	
travel mm : Tolerance mm : +-  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm :	0.25 370 2.00 0.25	Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75	
travel mm : Tolerance mm : +-  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-  Rated speed rpm : guide sleeve travel mm : Tolerance mm : +-	0.25 370 2.00 0.25 420 2.49 0.25	Rated speed rpm : 1095 Tolerance 1/min : + 5  rack travel mm : 4.00 Rated speed rpm : 1195 Tolerance 1/min : + 15  rack travel mm : 0.75 Tolerance mm : + 0.75	

andral lavas		T .
control lever position degree tolerance degree	: 68.0 : ← 4.0	START CUT-OUT
		+ Rated speed rpm : > 100
Testing:		Rated speed rpm : < 220
Rated speed rpm	: 300	Check
rack travel mm	5.20	speed 1/min : > 80
rack travel mm Tolerance mm	: +- 0.10	Check
TOTAL MITTER IMIT		speed 1/min : < 240
Rated speed rpm	: 200	+
CRT mm min.	: > 8.10	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	• 350	Aneroid pressure
Raced Speed Pail	. 370	hPa : 1000
TODOUE CONTROL		Rated speed rpm : 1050
TORQUE CONTROL		Del. quantity
0-4-44	. 550	+ cm3/1000 strokes : 229.0
Rated speed rpm	: 220	Tolerance
rack travel mm	: 14.80	+ cm3/1000 strokes : $+$ 3.0
Tolerance mm	: <b>←</b> 0.05	+ Check tolerance
		+ cm3/1000s. : +- 6.0
Rated speed rpm		Spreed
rack travel mm	: 14.80	+ Tolerance
Tolerance mm	: <del></del> 0.10	+ cm3/1000 strokes : 8.0
		+ Check tolerance
Rated speed rpm	: 700	+ cm3/1000s. : 12.0
Rated speed rpm rack travel mm	: 14.80	+
rack travel mm Tolerance mm	: <b>+</b> 0.05	+ Aneroid pressure
		+ hPa : -
		+ Rated speed rpm : 500
ANEROID/ALTITUDE		+ Del. quantity
COMPENSATOR TEST		+ cm3/1000 strokes : 129.0
		Tolerance
		+ cm3/1000 strokes : +- 1.0
SETTING		+ Check tolerance
		+ cm3/1000s. : +- 4.0
Rated speed rpm	: 400	Spreed
Pressure hPa	: 1000	Tolerance
rack travel mm		- cm3/1000 strokes : 8.0
Tolerance mm		Check tolerance
	0.07	+ cm3/1000s. : 12.0
MEASUREMENT		12.0
D		DDEALAHAY
Pressure hPa		BREAKAWAY
Rated speed rpm		†
rack travel mm	: 10.50	†
Tolerance mm	: <b>←</b> 0.15	+ Rack travel in mm: 13.80
	400	Rated speed rpm : 1095
Rated speed rpm	: 400	Tolerance 1/min : +- 5
Pressure hPa	: 400	1
rack travel mm		1
Tolerance mm		STARTING FUEL DELIVERY
TO CELECTED THAT	0.20	THE PERIOD OF SELECTION
Pressure hPa	: 600	Rated speed rpm : 100
rack travel mm	: 14.15	+ Del. quantity
Tolerance mm		- cm3/1000 strokes : 210.0
IOCEI GILCE IRII	0.20	CIID/ 1000 3 CT ONCS   210.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

## LOW IDLE

Rated speed rpm : 300\_ rack travel mm : 6.30 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes :  $\leftarrow$  3.0 Check tolerance cm3/1000s. : +- 6.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. : 10.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.04.96 Test oil : ISO 4113

Combination No. : 0 402 648 602

Injection pump

Pump designation : PE8P110A320RS7398 EP type number : 0 412 618 800

Governor

Governer design. : RQV300...900PA1252K Governer no. : 0 421 815 484

Cust. part No. :

Customer-spec. information Customer : TATRA : T3B-928.60 Motor

Power KW : 255.0

### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : + 1.0

Prestroke mm 5.05 : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 13.00 Tolerance mm : +- 1.00

Firing order : 1-8-5-4-7

: - 2- 3- 6

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.30

Check

tolerance 'NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00

: ← 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 191.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

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		+ Tolerance mm : +- 1.50
Spreed		+
Tolerance cm3/1000 strokes	: 5.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		+ Rated speed rpm : 900
cm3/1000s.	: 9.0	+ Aneroid pressure
Rated speed rpm	: 250	+ hPa : 1500 + Del. quantity
Tolerance mm		+ cm3/1000 strokes : 191.0
Del. quantity		+ Tolerance
cm3/1000 strokes	: 26.0	+ cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes	, 30	+ Check tolerance + cm3/1000s. : +- 4.0
Check tolerance	: +- 3.0	+ Spreed
cm3/1000s.	: +- 6.0	+ Tolerance
Spreed		+ cm3/1000 strokes : 5.0
Tolerance	0.0	+ Check tolerance
cm3/1000 strokes Check tolerance	: 8.0	+ cm3/1000s. : 9.0
cm3/1000s.	: 12.0	1
(2)		+ CONTROL LEVER
(B) SETTING OF IN WITH GOVERNOR	MECITON DOWN	t control lever
MILL GOVEKNOV		+ position degree : 65.0
		+ tolerance degree : +- 4.0
GUIDE SLEEVE TRAV	/EL	+
Dakad ayard aya	. 700	+ control lever
Rated speed rpm guide sleeve	: 300	+ position degree : 119.0 + tolerance degree : +- 4.0
travel mm	: 1.63	toter ance degree 4.0
Tolerance mm	: <del>+-</del> 0.20	+ RATED SPEED
Rated speed rpm	: 958	+ rack travel mm : 13.00
guide sleeve	. 750	+ Rated speed rpm : 945
travel mm	: 8.79	+ Tolerance 1/min : +- 5
Tolerance mm	: +- 0.15	+
D-4-4	. 777	+ rack travel mm : 4.00
Rated speed rpm guide sleeve	: 777	+ Rated speed rpm : 1065 + Tolerance 1/min : +- 15
travel mm	: 6.70	+
Tolerance mm	: ← 0.25	rack travel mm : 0.50
	500	+ Tolerance mm : +- 0.50
Rated speed rpm	: 520	Rated speed rr. : 1150
guide sleeve travel mm	: 3.73	I
Tolerance mm	: +- 0.25	
		+ LOW IDLE
Rated speed rpm	: 1260	†
guide sleeve travel mm	: 13.50	t - control lever
Tolerance mm		position degree : 70.0
		tolerance degree : +- 4.0
		†
GUIDE SLEEVE POSI	ITON	control lever position degree : 16.0
Rated speed rpm	: 1115	tolerance degree : +- 4.0
nated speed (pill		+
Rack travel in mm	: 13.00	Testing:

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		+ Check
Rated speed rpm Tolerance mm	: 250 : +- 0.10	speed 1/min : > 80
Rated speed rpm		speed 1/min : < 190
CRT mm min.	: > 6.00	+ FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 350	Aneroid pressure hPa : 1500 Rated speed rpm : 600
TORQUE CONTROL		+ Del. quantity + cm3/1000 strokes : 198.0
Rated speed rpm rack travel mm Tolerance mm	: 14.00	Tolerance - cm3/1000 strokes : +- 2.0 - Check tolerance - cm3/1000s. : +- 5.0
Rated speed rpm rack travel mm Tolerance mm	: 600 : 13.10 : +- 0.10	+ Aneroid pressure + hPa : -
Rated speed rpm rack travel mm Tolerance mm	: 300 : 12.60 : +- 0.20	Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 129.0 Tolerance
ANEROID/ALTITUDE		cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0
COMPENSATOR TEST		- 4.0
SETTING		+ BREAKAWAY +
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1500 : 14.00	Rack travel in mm: 13.00 Rated speed rpm: 945 Tolerance 1/min: +- 5
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: 900 : 9.05	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50 Del. quantity
Rated speed rpm	: 900	cm3/1000 strokes : 255.0 Tolerance
Pressure hPa rack travel mm Tolerance mm		cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0
Pressure hPa rack travel mm Tolerance mm	: 750 : 12.75 : +- 0.05	LOW IDLE
START CUT-OUT Rated speed rpm Rated speed rpm	: > 100 : < 170	Rated speed rpm : 250 Tolerance mm : +- 0.30 Del. quantity cm3/1000 strokes : 26.0
		•

Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25,04,96 : ISO 4113

Combination No. : 0 402 648 602A

Injection pump

Pump designation : PE8P110A320RS7398 EP type number : 0 412 618 800

Governor

Governer design. : RQV300...900PA1252K

Governer no. : 0 421 815 484

Cust. part No. :

Customer-spec. information

Customer : TATRA Motor

: T3B-928.50

Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40 Tolerance \*C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00

Tolerance mm : +- 1.00

Firing order : 1-8-5-4-7

: - 2- 3- 6

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.30

Check

tolerance °NW : **←** 0.50

Start of delivery mark

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no.

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 175.0

Tolerance		+
cm3/1000 strokes	: +- 1.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s.	: +- 4.0	+ Rated speed rpm : 1120
Spreed Tolerance cm3/1000 strokes	: 5.0	Rack travel in mm : 12.30 Tolerance mm : +- 1.30
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm Tolerance mm		Rated speed rpm : 900 Aneroid pressure hPa : -
Del. quantity cm3/1000 strokes Tolerance	: 26.0	+ Del. quantity + cm3/1000 strokes : 175.0 + Tolerance
cm3/1000 strokes Check tolerance	: +- 3.0	+ cm3/1000 strokes : +- 1.0 + Check tolerance
cm3/1000s. Spreed	: +- 6.0	cm3/1000s. : +- 4.0 + Spreed
Tolerance cm3/1000 strokes	: 8.0	Tolerance cm3/1000 strokes : 5.0
Check tolerance cm3/1000s.	: 12.0	+ Check tolerance + cm3/1000s. : 9.0
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	CONTROL LEVER
GUIDE SLEEVE TRAV	EL	<pre>control lever position degree : 61.0 tolerance degree : + 4.0</pre>
guide sleeve	: 300	control lever
travel mm Tolerance mm	: 1.63 : + 0.20	+ position degree : 115.0 + tolerance degree : +- 4.0
Rated speed rpm guide sleeve		RATED SPEED
travel mm Tolerance mm	: 8.79 : + 0.15	rack travel mm : 12.30 Rated speed rpm : 945 Tolerance 1/min : +- 5
Rated speed rpm guide sleeve travel mm	: 776 : 6.70	rack travel mm : 4.00 Rated speed rpm : 1095
Tolerance mm	: +- 0.25	Tolerance 1/min : +- 15
Rated speed rpm guide sleeve	: 520	rack travel mm : 0.50 Tolerance mm : +- 0.50
travel mm Tolerance mm	: 3.73 : +- 0.25	Rated speed rpm : 1100
Rated speed rpm guide sleeve	: 1260	
travel mm Tolerance mm	: 13.50 : +- 0.50	<del> </del>
		control lever position degree : 72.0

Control Lever position degree : +- 4.0   Control Lever position degree : +- 4.0   Rated speed rpm : > 100   Rated speed rpm : > 100   Rated speed rpm : < 170   Check   Speed 1/min : > 80   Check   Speed 1/min : Speed 1			
position degree : 18.0 tolerance degree : + 4.0         Rated speed rpm : > 100 Rated speed rpm : < 170           Testing:         Check speed 1/min : > 80 Check speed 1/min : < 190           Rated speed rpm : 150         150           CRT mm min. : > 6.40         FUEL DELIVERY CHARACTERISTICS           Rated speed rpm : 350         Aneroid pressure hPa in 2 speed 1/min : < 190           TORQUE CONTROL         Aneroid pressure hPa in 2 speed 1/min : < 190           Rated speed rpm : 600 pel. quantity cm3/1000 strokes : 182.0         Tolerance rpm : 600 pel. quantity cm3/1000 strokes : 182.0           Rated speed rpm : 900 rack travel mm : 13.30 rolerance mm : + 0.10         Aneroid pressure hPa in 5.0           Rated speed rpm : 300 rack travel mm : 11.50 rack travel mm : 50.0         Aneroid pressure hPa in 3/1000 strokes : 129.0 rack travel mm : 13.30 rack travel mm : 20.50 rack travel mm : 4.00         Rack travel in mm : 12.30 rack travel mm : 20.50 rack travel mm : 20.5	tolerance degree	: +- 4.0	†
Testing:   Check   Speed 1/min   :> 80   Check   Speed 1/min   := 80   Check   Speed 1/min   :	position degree	: 18.0 : +- 4.0	Rated speed rpm : > 100
Rated speed rpm   : 250	Testing:		<del> </del>
Rated speed rpm : 150  CRT mm min. : > 6.40  Rated speed rpm : 350  Aneroid pressure hPa : - Rated speed rpm : 600 Det. quantity cm3/1000 strokes : 182.0  Tokrance mm : + 0.05  Rated speed rpm : 600 rack travel mm : 12.30 Tolerance mm : + 0.10  Rated speed rpm : 500 Rated speed rpm : 600 rack travel mm : 12.30 Tolerance mm : + 0.10  Rated speed rpm : 600 rack travel mm : 12.30 Tolerance mm : + 0.10  Rated speed rpm : 500 Det. quantity cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0  Aneroid pressure hPa : - Rated speed rpm : 500 Det. quantity cm3/1000 strokes : 129.0 Tolerance mm : + 0.20  Aneroid pressure hPa : - Rated speed rpm : 500 Det. quantity cm3/1000 strokes : 129.0 Tolerance cm3/1000s. crokes : 129.0 Tolerance mm : + 0.20  Aneroid pressure hPa : - Rated speed rpm : 500 Det. quantity cm3/1000 strokes : 129.0 Tolerance cm3/1000s. crokes : + 2.0 Check tolerance cm3/1000s. crokes : + 2.0 Check tolerance cm3/1000s. crokes : + 2.0 Check tolerance cm3/1000s. crokes : + 2.0 Tolerance cm3/1000s. crokes : + 2.0 Tolerance cm3/1000s. crokes : + 2.0 Check tolerance cm3/1000s. crokes : + 2.0 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50 Tolerance mm : + 0	Rated speed rpm Tolerance mm		+ speed 1/min : > 8D + Check
Rated speed rpm : 350	Rated speed rpm	: 150	T speed 1/min
Pa	CRT mm min.	: > 6.40	FUEL DELIVERY CHARACTERISTICS
Del. quantity   Cm3/1000 strokes   182.0	Rated speed rpm	: 350	+ hPa : -
Rated speed rpm	TORQUE CONTROL		+ Del. quantity
Rated speed rpm : 600 rack travel mm : 12.30 Tolerance mm : + 0.10  Rated speed rpm : 300 rack travel mm : 11.50 Tolerance mm : + 0.20  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 900 Pressure hPa : 1500 rack travel mm : 13.30 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : 900 Rated speed rpm : 900 rack travel mm : 8.90 rack travel mm : 8.90 Tolerance mm : + 0.20  Rated speed rpm : 900 rack travel mm : 20.50 Tolerance mm : 20.50 Tolerance mm : + 0.20  Rated speed rpm : 900 rack travel mm : 20.50 Tolerance mm : + 0.20  Pressure hPa : - 0.20 Rated speed rpm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 255.0 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 255.0 Tolerance cm3/1000 strokes : 255.0 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : 255.0 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000 strokes : + 24.0  Pressure hPa : 425 rack travel mm : 10.00 Tolerance mm : + 0.15 Pressure hPa : 750 rack travel mm : 12.25	rack travel mm	: 13.30	Tolerance cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm : 300 rack travel mm : 11.50 Tolerance mm : + 0.20	rack travel mm	: 12.30	Aneroid pressure hPa : -
ANEROID/ALTITUDE COMPENSATOR TEST  BREAKAWAY  SETTING  Rated speed rpm : 900 Pressure hPa : 1500 rack travel mm : 13.30 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 900 rack travel mm : 8.90 Tolerance mm : + 0.20  Rated speed rpm : 20.50 Tolerance mm : + 0.50  Pressure hPa : - Rated speed rpm : 900 Rated speed rpm : 20.50 Tolerance mm : + 0.50 Del. quantity cm3/1000 strokes : 255.0 Tolerance mm : + 0.15  Pressure hPa : 425 rack travel mm : 10.00 Tolerance mm : + 0.15  Pressure hPa : 750 rack travel mm : 12.25	Rated speed rpm rack travel mm Tolerance mm	: 300 : 11.50 : +- 0.20	<pre>Del. quantity     cm3/1000 strokes : 129.0     Tolerance     cm3/1000 strokes : +- 2.0</pre>
Rated speed rpm : 900 Pressure hPa : 1500 Tolerance mm : +- 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 900 Rated speed rpm : 100 Rated speed rpm : 100 Rated speed rpm : 20.50  Tolerance mm : +- 0.20  Rated speed rpm : 20.50 Tolerance mm : +- 0.20  Tolerance mm : +- 0.50  Del. quantity cm3/1000 strokes : 255.0 Tolerance Pressure hPa : 425 rack travel mm : 10.00 Tolerance mm : +- 0.15  Pressure hPa : 750 rack travel mm : 12.25			
Pressure hPa : 1500 rack travel mm : 13.30 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 900 rack travel mm : 8.90 Tolerance mm : + 0.20  Rated speed rpm : 20.50 Tolerance mm : + 0.20  Pressure hPa : - Rated speed rpm : 20.50 Tolerance mm : + 0.50 Del. quantity Cm3/1000 strokes : 255.0 Tolerance Pressure hPa : 425 rack travel mm : 10.00 Tolerance mm : + 0.15  Pressure hPa : 750 rack travel mm : 12.25	SETTING		BREAKAWAY
Pressure hPa : - Rated speed rpm : 900 rack travel mm : 8.90 Tolerance mm : +- 0.20  Rated speed rpm : 900 Rated speed rpm : 900  Rated speed rpm : 900  Rated speed rpm : 900  Pressure hPa : 425 rack travel mm : 10.00 Tolerance Tolerance mm : +- 0.15  Pressure hPa : 750 rack travel mm : 12.25	Pressure hPa rack travel mm	: 1500 : 13.30	+ Rated speed rpm : 945
Pressure hPa : - Rated speed rpm : 900 rack travel mm : 8.90 Tolerance mm : +- 0.20  Rated speed rpm : 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 255.0 Tolerance Pressure hPa : 425 rack travel mm : 10.00 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance Tolerance mm : +- 0.15  Pressure hPa : 750 rack travel mm : 12.25	MEASUREMENT		STARTING FILE DELIVERY
Rated speed rpm : 900	Rated speed rpm	: - : 900 : 8.90 : +- 0.20	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50
Pressure hPa       : 425       + cm3/1000 strokes : + 20.0         rack travel mm       : 10.00       + Check tolerance         Tolerance mm       : + 0.15       + cm3/1000s.       : + 24.0         Pressure hPa       : 750       + rack travel mm       : 12.25	Rated speed rpm	: 900	+ cm3/1000 strokes : 255.0
Pressure hPa : 750 rack travel mm : 12.25 Tolerance mm : +- 0.05	rack travel mm	: 10.00	cm3/1000 strokes : +- 20.0 + Check tolerance
	Pressure hPa rack travel mm Tolerance mm	: 750 : 12.25 : + 0.05	‡

# LOW IDLE

Rated speed rpm	: 250	
Tolerance mm	: +- 0.30	
Del. quantity		
cm3/1000 strokes	: 26.0	
Tolerance		
cm3/1000 strokes	: +- 3.0	
Check tolerance		
cm3/1000s.	: +- 6.0	
Spreed		
Tolerance		
cm3/1000 strokes	: 8.0	
Check tolerance		
cm3/1000s.	: 12.0	

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

Edition : 22.03.96 Test oil : ISO 4113

Combination No. : 0 402 676 829

Injection pump

Pump designation : PE6P120A720RS7188

: -10

EP type number : 0 412 626 924

Governor

Governer design. : RSV350...1050P1A543

: -4

Governer no. : 0 421 833 546

Cust. part No. : 1388814

Customer-spec. information Customer : SCANIA Motor : DS1159A

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance :  $\leftarrow$  0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

, 50

Rack travel in mm : 13.15 Tolerance mm : +- 0.05	Del. quantity cm3/1000 strokes : 231.0 Tolerance
hal mandah	cm3/1000 strokes : +- 1.0
Del. quantity cm3/1000 strokes : 231.0	Check tolerance cm3/1000s. : +- 4.0 Spreed
Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : 8.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 12.0
Spreed Tolerance cm3/1000 strokes : 8.0	CONTROL LEVER
Check tolerance	position degree : 63.0
cm3/1000s. : 12.0	tolerance degree : +- 4.0
Rated speed rpm : 350	control lever
<u> </u>	position degree : 113.0
Rack travel in mm: 4.70	tolerance degree : +- 4.0
Tolerance mm : +- 0.30	-
Del. quantity +	RATED SPEED
cm3/1000 strokes : 19.0 +	
Tolerance +	rack travel mm : 11.35
cm3/1000 strokes : +- 3.0 +	Rated speed rpm : 1095
Check tolerance +	Tolerance 1/min : +- 5
cm3/1000s. : +- 6.0 +	
Spreed +	rack travel mm : 4.00
Tolerance +	Rated speed rpm : 1170
cm3/1000 strokes : 4.0 +	Tolerance 1/min : +- 15
Check tolerance +	
cm3/1000s. : 8.0	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1300
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Nated Speed (pm . 1900
+	
	LOW IDLE
GUIDE SLEEVE POSITION +	anatural lavoru
200	control lever
Rated speed rpm : 800	position degree : 81.0 tolerance degree : +- 4.0
Rack travel in mm: 0.50	aantaal lawan
Tolerance mm : + 0.20 +	control lever
T	position degree : 31.0
governor spring	tolerance degree : +- 4.0
pre-tension click setting x : 6.00	Setting point w/out bumper spring
	Rated speed rpm : 350
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 4.20
Rated speed rpm : 700 Aneroid pressure	Testing:
hPa : -	Rated speed rpm : 350
+	rack travel mm : 4.70

Tolerance mm	: +- 0.10	+ Aneroid pressure + hPa : -
rack travel mm	: 2.00	Rated speed rpm : 1050
Rated speed rpm	: 470	+ Del. quantity
Tolerance 1/min	: +- 30	Del. quantity cm3/1000 strokes : 212.0
		+ Tolerance
Rated speed rpm	: 100	+ cm3/1000 strokes : +- 4.0
CRT mm min.	. \ 10 50	+ Check tolerance + cm3/1000s. : +- 6.0
CKI MIN MITTI	17.50	T CM3/18003
		- Aneroid pressure
TORQUE CONTROL		+ hPa : -
Data da a a a da mara	. 700	Rated speed rpm : 500
Rated speed rpm	: 700	+ Del. quantity + cm3/1000 strokes : 153.0
rack travel mm Tolerance mm	· +- 0.05	+ Tolerance
TOTAL INC.	0.05	- cm3/1000 strokes : +- 1.0
Rated speed rpm	: 1050	+ Check tolerance
rack travel mm	: 12.35	+ cm3/1000s. : +- 4.0
rack travel mm Tolerance mm	: +- 0.05	+
Dakad amasal mum	. 940	DDEAKAHAY
Rated speed rpm rack travel mm	: 00U • 12 80	† BREAKAWAY
Tolerance mm	: +- 0.10	1
		Rack travel in mm : 11.35 Rated speed rpm : 1095
		- + Rated speed rpm : 1095
ANEROID/ALTITUDE		Tolerance 1/min : +- 5
COMPENSATOR TEST		+
		Ī
SETTING		STARTING FUEL DELIVERY
Dated speed rom	• 500	Pated speed rom · 100
Pressure hPa	: 1500	rack travel mm : 10.40
rack travel mm	: 13.15	Rated speed rpm : 100 rack travel mm : 10.40 Tolerance mm : + 0.20
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: +- 0.05	+ Del. quantity
		- cm3/1000 strokes : 170.0
MEASUREMENT		+ Tolerance
Pressure hPa		cm3/1000 strokes : + 20.0
	•	
	: - : 500	Ţ
Rated speed rpm		† † +
Rated speed rpm rack travel mm		<del></del>
Rated speed rpm rack travel mm Tolerance mm	: 10.40 : +- 0.20	LOW IDLE
Rated speed rpm rack travel mm Tolerance mm	: 10.40	+
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 10.40 : +- 0.20 : 500	Rated speed rpm : 350
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa	: 10.40 : +- 0.20 : 500 : 270	Rated speed rpm : 350 rack travel mm : 4.70
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 10.40 : +- 0.20 : 500 : 270 : 11.00	Rated speed rpm : 350 rack travel mm : 4.70 Tolerance mm : + 0.30
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm	: 10.40 : +- 0.20 : 500 : 270	Rated speed rpm : 350 rack travel mm : 4.70 Tolerance mm : + 0.30 Del. quantity
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 10.40 : +- 0.20 : 500 : 270 : 11.00	Rated speed rpm : 350 rack travel mm : 4.70 Tolerance mm : + 0.30
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15	Rated speed rpm : 350 rack travel mm : 4.70 Tolerance mm : + 0.30 Del. quantity cm3/1000 strokes : 19.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15 : 440	Rated speed rpm : 350  rack travel mm : 4.70  Tolerance mm : + 0.30  Del. quantity  cm3/1000 strokes : 19.0  Tolerance  cm3/1000 strokes : + 3.0  Check tolerance
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15 : 440 : 12.05	Rated speed rpm : 350  rack travel mm : 4.70  Tolerance mm : + 0.30  bel. quantity  cm3/1000 strokes : 19.0  Tolerance  cm3/1000 strokes : + 3.0  Check tolerance  cm3/1000s. : + 6.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15 : 440 : 12.05	Rated speed rpm : 350  rack travel mm : 4.70  Tolerance mm : + 0.30  bel. quantity  cm3/1000 strokes : 19.0  Tolerance  cm3/1000 strokes : + 3.0  Check tolerance  cm3/1000s. : + 6.0  Spreed
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15 : 440 : 12.05	Rated speed rpm : 350  rack travel mm : 4.70  Tolerance mm : + 0.30  bel. quantity  cm3/1000 strokes : 19.0  Tolerance  cm3/1000 strokes : + 3.0  Check tolerance  cm3/1000s. : + 6.0  Spreed  Tolerance
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15 : 440 : 12.05 : +- 0.05	Rated speed rpm : 350  rack travel mm : 4.70  Tolerance mm : + 0.30  bel. quantity  cm3/1000 strokes : 19.0  Tolerance  cm3/1000 strokes : + 3.0  Check tolerance  cm3/1000s. : + 6.0  Spreed  Tolerance  cm3/1000 strokes : 4.0
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Tolerance mm	: 10.40 : +- 0.20 : 500 : 270 : 11.00 : +- 0.15 : 440 : 12.05 : +- 0.05	Rated speed rpm : 350  rack travel mm : 4.70  Tolerance mm : + 0.30  bel. quantity  cm3/1000 strokes : 19.0  Tolerance  cm3/1000 strokes : + 3.0  Check tolerance  cm3/1000s. : + 6.0  Spreed  Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 26.04.96 Edition Test oil : ISO 4113

Combination No. : 0 402 846 302

Injection pump

Pump designation : PE6P12OA32ORS852O

EP type number : 0 412 826 202

Governor

Governer design. : RQV275...1000PA1269K

: 0 421 815 969 Governer no.

Cust. part No. : 1310222/1

Customer-spec. information Customer : DAF

: XF 355 M Motor : 355.0

Fower KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.5 Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 4.85 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

: +- 0.50 tolerance 'NW

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm: 14.15 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 344.0

:e		1
trokes	: +- 1.0	GUIDE SLEEVE POSITION
	; +- 5.0	Rated speed rpm : 1150
		Rack travel in mm : 13.10
es	: 6.0	Toterance man
ce	: 12.0	FULL LOAD DELIVERY AT FULL LOAD STO
rpm	: 275	Rated speed rpm : 980 Aneroid pressure
n mm		hPa : 1500 Del. quantity
	-	cm3/1000 strokes : 344.0 Tolerance
	: 18.0	cm3/1000 strokes : +- 1.0 Check tolerance
okes nce	: + 3.0	+ cm3/1000s. : + 5.0 + Spreed
	: +- 6.0	Tolerance cm3/1000 strokes : 6.0
rokes	: 8.0	Check tolerance cm3/1000s. : 12.0
ance	: 13.0	
NG OF IN RNOR	JECTION PUMP	- CONTROL LEVER - control lever - position degree : 118.0
EEVE TRAV	EL	tolerance degree : +- 4.0
eed rpm eeve	: 275	+ RATED SPEED
	: 2.04	rack travel mm : 13.15 Rated speed rpm : 1050
m	: <del>+-</del> 0.20	Tolerance 1/min : + 5
n	: 1062	rack travel mm : 4.00 Rated speed rpm : 1160
e M	: 10.05 : + 0.15	Tolerance 1/min : + 15
rpm	: 697	<pre>+ rack travel mm : 0.70 + Tolerance mm : +- 0.70 + Rated speed rpm : 1275</pre>
) 	: 6.49 : + 0.25	T Nateu speed (pill . 12/)
"" Irpm	: 400	LOW IDLE
	: 3.92	‡
)	: +- 0.25	control lever position degree : 73.0
rpm e	: 1310	tolerance degree : +- 4.0
	: 13.50 : + 0.50	Testing:

Rated speed rpm	: 275	† Tolerance mm : +- 0.05
rack travel mm Tolerance mm	4.90	†
Tolerance mm	: +- 0.10	Pressure hPa : 380
	A 444.45	rack travel mm : 10.30
Rated speed rpm	: 175	† Tolerance mm : +- 0.10
CRT mm min.	: > 8.20	Ŧ
Rated speed rpm	; 300	T
Rated Speed rpm	. 300	FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL		Aneroid pressure
1011405 001111105		hPa : 1500
Rated speed rpm	• 980	Rated speed rpm : 750
		T hated speed (pill : 150
rack travel mm	: + 0.05	+ Del. quantity
Tolerance mm	: +- 0.05	- cm3/1000 strokes : 353.0
Dadad	. 000	Tolerance
Rated speed rpm		- cm3/1000 strokes : +- 2.0
rack travel mm	: 75.95	+ Check tolerance
Tolerance mm	: <b>←</b> 0.10	+ cm3/1000s. : +- 6.0
Rated cheed rom	. 750	Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	17.70	hPa : -
Tolerance ma	. 13.70	Rated speed rpm : 600
locerance inn	0.05	
D-4	. 200	+ Del. quantity
Rated speed rpm	: /00	cm3/1000 strokes : 200.0
rack travel mm		+ Tolerance
Tolerance mm	: <b>←</b> 0.10	cm3/1000 strokes : +- 1.0
	_	+ Check tolerance
Rated speed rpm	: 600	+ cm3/1000s. : ← 5.0
rack travel mm	: 12.75	+
Tolerance mm	: <b>←</b> 0.10	
		+ BREAKAWAY
Rated speed rpm	: 500	+
rack travel mm	: 12.50	+
Tolerance mm	: ← 0.10	+ Rack travel in mm : 13.15
		Rated speed rpm : 1050
		+ Tolerance 1/min : +- 5
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		<u> </u>
Rated speed rpm	: 980	LOW IDLE
Pressure hPa	: 1500	<b>∔</b>
rack travel mm	: 14.15	Rated speed rpm : 275
Tolerance mm	: +- 0.05	rack travel mm : 6.60
IOTEL GIVE WILL	0.07	Tolerance mm : +- 0.20
MEACHDEMENT		Del. quantity
MEASUREMENT		
B	_	+ cm3/1000 strokes : 18.0
Pressure hPa	: -	+ Tolerance
Rated speed rpm		+ cm3/1000 strokes : +- 3.0
rack travel mm		+ Check tolerance
Tolerance mm	: +- 0.15	+ cm3/1000s. : +- 6.0
		+ Spreed
Rated speed rpm	: 980	Tolerance
and the second second		+ cm3/1000 strokes : 8.0
Pressure hPa	: 750	+ Check tolerance
rack travel mm	12.90	- cm3/1000s. : 13.0
I GON GI GYCE HER		1 0.000

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 30.04.96

Test oil

: ISO 4113

Combination No. : 0 402 946 011

Injection pump

Pump designation : PES6P120A320RS8028

EP type number : 0 412 926 021

Governor

Governer design: : RQV275...1250PA1125K

Governer no.

: 0 421 815 981

Cust. part No. : CCEP 5140A 66-205

Customer-spec. information

Customer

: RENAULT V.I.

Motor

: MIDR 06.02.26L51

Power KW

: 132.0

TEST BENCH REQUIREMENTS

Inlet line

: 3.1

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

: 208.5

Tolerance bar

Test lines

: 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm : 5.00

Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 11.00

: +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance \*NW : → 0.50

Start of delivery mark

\*NW after s.o.d. : -0.25

: + - 0.50Tolerance

Check

tolerance \*NW : **←** 0.75

: 1 Barrel no.

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel

10.00

Difference \* CS : 2.25

BASIC SETTING

Rated speed rpm	: 1250	Rated speed rpm : 390 guide sleeve
	*** *** *** *** *** *** *** *** *** **	travel mm : 2.39
Rack travel in m Tolerance mm	m: 12.60 : +- 0.05	Tolerance mm : +- 0.20
	1	Rated speed rpm : 440
Del. quantity		guide sleeve
cm3/1000 strokes	: 170.0	travel mm : 3.01
	1	Tolerance mm : +- 0.20
Tolerance		
cm3/1000 strokes	: +- 1.0	Rated speed rpm : 550
cinor rood attrokes	1	guide sleeve
Check tolerance	<u> </u>	travel mm : 3.92
cm3/1000s.	: ← 4.0 I	Tolerance mm : +- 0.20
CH37 10003.	7.0	Totel affice min . F- U.20
Spaced		Rated speed rpm : 1650
Spreed	Ţ	
Tolerance		guide sleeve
cm3/1000 strokes	: 5.0	travel man : 13.50
Charl Aslamana		Tolerance mm : +- 0.50
Check tolerance	<b>1</b>	
cm3/1000s.	: 9.0	
	<u> </u>	GUIDE SLEEVE POSITION
Rated speed rpm	: 325 +	
	+	Rated speed rpm : 1430
Rack travel in m		•
Tolerance mm	: ← 0.20 +	Rack travel in mm : 10.90
Del. quantity	+	Tolerance mm : + 2.00
cm3/1000 strokes	: 41.0 +	
Tolerance	+	
cm3/1000 strokes	: <del>←</del> 2.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+	
cm3/1000S.	: ← 6.0 <del> </del>	Rated speed rpm : 1250
Spreed	·,	Aneroid pressure
Tolerance	+	hPa : 1600
cm3/1000 strokes	: 8.0	Del. quantity
Check tolerance	+	cm3/1000 strokes : 170.0
cm3/1000S.	: 12.0	Tolerance
	1	cm3/1000 strokes : +- 1.0
	1	Check tolerance
(B) SETTING OF IN	ALIECTION PUMP	cm3/1000s. : +- 4.0
WITH GOVERNOR	1	Spreed
WITH GOVERNOR	1	Tolerance
	I	cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAV	JEI I	Check tolerance
AATAF OFFFAF IVAL	I	cm3/1000s. : 9.0
Rated speed rpm	: 275	· /·U
guide sleeve	·	
travel mm	: 1.00	
Tolerance mm	: + 0.15	CONTROL LEVER
TOTETORICE TOR	I	CONTROL LEVER
Rated speed rpm	: 1355	control lever
guide sleeve	· 1333	position degree : 296.0
travel mm	: 10.10	tolerance degree : +- 4.0
Tolerance mm	: + 0.10	total dilica degree 4.0
・しして の ルマ (幕)	1	RATED SPEED
Deted speed and	: 929	MAIGU SPEED
Rated speed rpm	• • • • • • • • • • • • • • • • • • • •	rack travel mm : -1.00
guide sleeve travel mm	: 6.80	Rated speed rpm : 1330
Tolerance mm	: ← 0.20	Tolerance 1/min : +- 15
ししてではいて (福業	T	TOCETORICE TAILETT . TO 13
	7	

rack travel mm Rated speed rpm Tolerance 1/min	: 1470	Rated speed rpm : 1250 Pressure hPa : 200_
rack travel mm Tolerance mm	: -12.10 : +- 0.55	rack travel mm : -3.70 Tolerance mm : +- 0.20
Rated speed rpm	: 1600	Pressure hPa : 360 rack travel mm : -2.60 Tolerance mm : +- 0.05
LOW IDLE		START CUT-OUT
control lever position degree tolerance degree	: 244.0 : + 4.0	Rated speed rpm : > 175 Rated speed rpm : < 240 Check
Testing:		speed 1/min : > 155 Check
Rated speed rpm rack travel mm Tolerance mm	: 325 : -6.60 : ← 0.10	speed 1/min : < 260
Rated speed rpm		FUEL DELIVERY CHARACTERISTICS
CRT mm max.	: < -5.20	Aneroid pressure  hPa : 1600 Rated speed rpm : 650
Rated speed rpm	: 360	+ Del. quantity + cm3/1000 strokes : 182.0
TORQUE CONTROL		Tolerance cm3/1000 strokes : + 3.0
Rated speed rpm	: 1250	Check tolerance cm3/1000s. : +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 650 : −1.10 : ← 0.10	Aneroid pressure  hPa : -  Rated speed rpm : 500  Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: -1.70	cm3/1000 strokes : 116.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		
CETTIALC		+ BREAKAWAY
SETTING	4000	Rack travel in mm: -1.00
Rated speed rpm Pressure hPa Tolerance mm	: 1600	Rated speed rpm : 1330 Tolerance 1/min : +- 15
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: -4.30	Del. quantity cm3/1000 strokes : 122.0 Tolerance cm3/1000 strokes : +- 10.0

Check tolerance		
cm3/1000s.	: +-	14.0

# LOW IDLE

Rated speed rpm	:		325
rack travel mm	:		-6.60
Tolerance mm	ŗ	+-	0.20
Del. quantity			
cm3/1000 strokes	:		41.0
Tolerance			
cm3/1000 strokes	:	+-	2.0
Check tolerance			
cm3/1000S.	:	+-	6.0
Spreed			
Tolerance			
cm3/1000 strokes	;		8.0
Check tolerance			
cm3/1000S.	:		12.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25,04,96 Edition : ISO 4113 Test oil

Combination No. : 0 403 244 052

Injection pump

Pump designation : PES4MW100/720RS1524

EP type number : 0 413 204 021

Governor

Governer design. : RQV300...1200MW132

: -15

: 0 420 083 332 Governer no.

Cust. part No. : 0260747602

Customer-spec. information : MB-NFZ Customer : 0M364LA Motor Power KW : 77.0

#### TEST BENCH REQUIREMENTS

: 3.1 Inlet line

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 har Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0 x inside diameter : 3.0 600 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

31.0 Test pressure bar : Tolerance bar : +- 1.0

4.55 Prestroke mm : +- 0.05 Tolerance mm Check

: + - 0.10tolerance mm

Rack travel in mm: 20.00 Tolerance mm : +- 1.00

: 1-3-4-2 Firing order

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance \*NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 11.00 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 89.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 3.0 cm3/1000s.

Spreed Tolerance

cm3/1000 strokes : 4.5

Check tolerance	+	Del. quantity
cm3/1000s.	: 7.0	cm3/1000 strokes : 89.0
	1	Tolerance
Rated speed rpm	: 300	cm3/1000 strokes : +- 1.0
Rated Speed (bill	· 300	
	, , <u>,</u>	Check tolerance
Rack travel in mm		cm3/1000s. : +- 3.0
Tolerance mm	: +- 0.20 +	Spreed
Del. quantity	+	Tolerance
cm3/1000 strokes	: 12.0	cm3/1000 strokes : 4.5
Tolerance	1	Check tolerance
cm3/1000 strokes	20	cm3/1000s. : 7.0
Check tolerance	T	CIII 37 10003 7.0
	T	
cm3/1000s.	: +- 4.5	
Spreed	<del></del>	
Tolerance	+	CONTROL LEVER
cm3/1000 strokes	: 2.0 +	
Check tolerance	<del>+</del>	control lever
cm3/1000S.	: 4.0	position degree : 115.0
	1	tolerance degree : +- 4.0
	Ţ	toter affect degree . 4.0
(D) CETTING OF TH	TOTAL DUMP	DATEN COCEN
(B) SETTING OF IN	JECTION POMP	RATED SPEED
WITH GOVERNOR	<del>†</del>	
	+	rack travel mm : 10.00
<del></del>	<del></del>	Rated speed rpm : 1245
GUIDE SLEEVE TRAVE	EL 🕂	Tolerance 1/min : +- 5
	1	
Rated speed rpm	: 300	rack travel mm : 4.00
guide sleeve	. 355	Rated speed rpm : 1355
	: 0.91	
travel mm		Tolerance 1/min : +- 15
Tolerance mm	: +- 0.20	0.50
	<u>,</u> , †	rack travel mm : 0.50
Rated speed rpm	: 1354 +	Tolerance mm : +- 0.50
guide sleeve	+	Rated speed rpm : 1450
guide steere		
travel mm	: 9.00	
travel mm		
	: 9.00 : + 0.15	
travel mm Tolerance mm	: ← 0.15	IOW TOLE
travel mm Tolerance mm Rated speed rpm	: ← 0.15	LOW IDLE
travel mm Tolerance mm Rated speed rpm guide sleeve	: +- 0.15 : 1020	LOW IDLE
travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: +- 0.15 : 1020 : 5.87	
travel mm Tolerance mm Rated speed rpm guide sleeve	: +- 0.15 : 1020	control lever
travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25	control lever position degree : 75.0
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm	: ← 0.15 : 1020 : 5.87 : ← 0.25	control lever
travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25	control lever position degree : 75.0
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690	control lever position degree : 75.0 tolerance degree : + 4.0
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50	control lever position degree : 75.0
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50	control lever position degree : 75.0 tolerance degree : + 4.0 Testing:
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50	<pre>control lever position degree : 75.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 300</pre>
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	<pre>control lever position degree : 75.0 tolerance degree : + 4.0 Testing: Rated speed rpm : 300</pre>
Travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10
travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > 5.00
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50 FION : 1450 : 10.00 : ← 2.70	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > 5.00
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50 FION : 1450 : 10.00 : ← 2.70	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > 5.00
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: + 0.15 : 1020 : 5.87 : + 0.25 : 1690 : 13.50 : + 0.50 TION : 1450 : 10.00 : + 2.70	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > 5.00  TORQUE CONTROL  Rated speed rpm : 1200
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: ← 0.15 : 1020 : 5.87 : ← 0.25 : 1690 : 13.50 : ← 0.50 FION : 1450 : 10.00 : ← 2.70	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > 5.00  TORQUE CONTROL  Rated speed rpm : 1200 rack travel mm : 11.00
Travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm Tolerance mm  GUIDE SLEEVE POSIT Rated speed rpm Rack travel in mm Tolerance mm	: + 0.15 : 1020 : 5.87 : + 0.25 : 1690 : 13.50 : + 0.50 TION : 1450 : 10.00 : + 2.70	control lever position degree : 75.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 4.40 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > 5.00  TORQUE CONTROL  Rated speed rpm : 1200

Rated speed rpm rack travel mm Tolerance mm  ANEROID/ALTITUDE COMPENSATOR TEST	: 11.00 : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 56.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
SETTING		cm3/1000s. : +- 3.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700	BREAKAWAY  Rack travel in mm : 10.00
MEASUREMENT		+ Rated speed rpm : 1245 + Tolerance 1/min : +- 5
Pressure hPa Rated speed rpm Tolerance mm	: 500 : +- 0.10	STARTING FUEL DELIVERY
Rated speed rpm	: 500	+
Pressure hPa rack travel mm Tolerance mm	: 230 : 0.90 : + 0.10	Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 120.0  Tolerance
Pressure hPa rack travel mm Tolerance mm	: 150 : 0.30 : + 0.10	cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0
START CUT-OUT		_
Rated speed rpm Rated speed rpm		LOW IDLE  Rated speed rpm : 300  rack travel mm : 4.40
Check speed 1/min Check speed 1/min	: > 80 : < 220	Tolerance mm : +- 0.20  Del. quantity  cm3/1000 strokes : 12.0  Tolerance
		+ cm3/1000 strokes : +- 2.0
FUEL DELIVERY CHA	NRACTERISTICS	- + Check tolerance - cm3/1000S. : + 4.5 - Spreed
Aneroid pressure hPa Rated speed rpm	: 700 : 750	Tolerance cm3/1000 strokes : 2.0 Check tolerance
Del. quantity cm3/1000 strokes Tolerance	: 83.0	+ cm3/1000s. : 4.0
cm3/1000 strokes Check tolerance	: + 1.5	<del>-</del>
cm3/1000s. Spreed	: +- 4.0	‡
Tolerance cm3/1000 strokes Check tolerance	: 6.0	‡
cm3/1000s.	: 9.0	+

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.04.96 Test oil : ISO 4113

Combination No. : 0 403 466 178

Injection pump

Pump designation : PES6MW100/720/3RS120

: 5-1

EP type number : 0 413 406 245

Governor

Governer design. : RSV675...1250MWOA401

Governer no. : 0 420 085 290

Cust. part No. : 0270749302

Customer—spec. information Customer : MB-NFZ Motor : OM 366 LA Power KW : 185.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 3.25
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance \*NW :  $\leftarrow$  0.75

BASIC SETTING

Rated speed rpm : 1230

Rack travel in mm: 15.25

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 122.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

**B05** 

		1	
Check tolerance cm3/1000s.	: 6.0	control lever position degree	: 92.0
Rated speed rpm	: 675	RATED SPEED	
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.50	rack travel mm Tolerance mm Rated speed rpm	: 1.00 : +- 0.70 : 1400
Tolerance cm3/1000 strokes		rack travel mm Rated speed rpm	
Check tolerance cm3/1000S. Spreed	: +- 4.5	ASSEMBLY GOVERNOR	
Tolerance cm3/1000 strokes Check tolerance	: 3.5	Rated speed rpm rack travel mm	: 1270 : 14.25
cm3/1000s.	: 5.5	Rated speed rpm Tolerance 1/min rack travel mm	
(B) SETTING OF INJ WITH GOVERNOR	ECTION PUMP -	Rated speed rpm rack travel mm	
GUIDE SLEEVE POSIT	ION	Rated speed rpm Tolerance 1/min rack travel mm	
Rated speed rpm	: 800	Rated speed rom	: 1272
Rack travel in mm Tolerance mm	: 0.65 : +- 0.35	Rated speed rpm rack travel mm	: 14.25
governor spring pre-tension click setting x	: 2.00	Rated speed rpm Tolerance 1/min rack travel mm Rated speed rpm	: 1301 : +- 4 : 4.00 : 1273
FULL LOAD DELIVERY	AT FULL LOAD STOP -	rack travel mm	: 14.25
	: 1230	Rated speed rpm Tolerance 1/min rack travel mm	: + 1302 : + 4 : 4.00
Del. quantity cm3/1000 strokes	· : 122.0	Rated speed rpm rack travel mm	: 1278 : 14.25
Tolerance cm3/1000 strokes Check tolerance cm3/1000S.	: +- 1.0 : +- 3.0	Rated speed rpm Tolerance 1/min rack travel mm	: + 1307 : + 4 : 4.00
Spreed Tolerance cm3/1000 strokes Check tolerance	: 3.5	Rated speed rpm rack travel mm	: 1279 : 14.25
	: 6.0	Rated speed rpm Tolerance 1/min rack travel mm	: 1308 : + 4 : 4.00
CONTROL LEVER		1011 701 7	

LOW IDLE

control lever position degree	:	73.0
Testing:		

Rated speed rpm : 675 rack travel mm : 6.00 Tolerance mm : +- 0.30

rack travel mm : 2.00 Rated speed rpm : 700 Tolerance 1/min : +- 30

CRT mm min. : > 19.00

## TORQUE CONTROL

Rated speed rpm : 1230 rack travel mm : 15.25 Tolerance mm : + 0.05

Rated speed rpm : 800 rack travel mm : 15.25 Tolerance mm : +- 0.10

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 800

Del. quantity

cm3/1000 strokes : 122.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 7.0

## STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 115.0

Tolerance

cm3/1000 strokes : +- 5.0

Check tolerance cm3/1000s. : +- 8.0

LOW IDLE

Rated speed rpm 675 rack travel mm 6.00 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 12.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance : +cm3/1000s.4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. 5.5

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 25.04.96 Test oil : ISO 4113

Combination No. : 0 403 476 147

Injection pump

Pump designation : PES6MW100/720RS1131

: -1

EP type number : 0 413 406 165

Governor

Governer design. : RSV750...1200MW0A329

: -17

Governer no. : 0 420 085 291

Cust. part No. : 0270747902

Customer-spec. information

Customer : MB-NFZ Motor : OM366LA Power KW : 163.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1180

Rack travel in mm : 13.15

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 104.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance cm3/1000 strokes : 3.5	control lever position degree : 98.0
Check tolerance cm3/1000s. : 6.0	tolerance degree : +- 4.0  RATED SPEED
Rated speed rpm : 750	rack travel mm : 1.00
Rack travel in mm : 4.70 Tolerance mm : +- 0.40	Tolerance nim : +- 0.70 Rated speed rpm : 1400
Del. quantity cm3/1000 strokes : 12.0 Tolerance	ASSEMBLY GOVERNOR SETTING
cm3/1000 strokes : +- 2.0 Check tolerance	Rated speed rpm : 1230 rack travel mm : 12.10
cm3/1000S. : +- 4.5 Spreed	Rated speed rpm : 1314
Tolerance cm3/1000 strokes : 3.5	Tolerance 1/min : +- 4 rack travel mm : 4.00
Check tolerance cm3/1000s. : 5.5	Rated speed rpm : 1231 rack travel mm : 12.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Reted speed rpm : 1315 Tolerance 1/min : +- 4 rack travel mm : 4.00
GUIDE SLEEVE POSITION	Rated speed rpm : 1232 rack travel mm : 12.10
Rated speed rpm : 800  Rack travel in mm : 0.65	Rated speed rpm : 1316 Tolerance 1/min : +- 4 rack travel mm : 4.00
Tolerance mm : +- 0.35 governor spring	Rated speed rpm : 1233 rack travel mm : 12.10
pre-tension click setting x : 4.00	Rated speed rpm : 1317 Tolerance 1/min : + 4 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD ST	
Rated speed rpm : 1180 Aneroid pressure	rack travel mm : 12.10
hPa : 1000 Del. quantity cm3/1000 strokes : 104.0	+ Rated speed rpm : 1322 + Tolerance 1/min : + 4 + rack travel mm : 4.00
Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : 1239 rack travel mm : 12.10
cm3/1000s. : +- 3.0 Spreed Tolerance cm3/1000 strokes : 3.5	Rated speed rpm : 1323 Tolerance 1/min : +- 4 rack travel mm : 4.00
Check tolerance cm3/1000s. : 6.0	LOW IDLE

CONTROL LEVER

		+		
control lever position degree tolerance degree		†	FUEL DELIVERY CHA	ARACTERISTICS
Testing:		1	Aneroid pressure hPa	: 1000
-	750	+	Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm	: 4.70	+	Del. quantity cm3/1000 strokes Tolerance	: 97.0
rack travel mm	: 2.00	+	cm3/1000 strokes	: +- 1.5
Rated speed rpm Tolerance 1/min	: 775	†	Check tolerance cm3/1000s. Spreed	: +- 4.0
Rated speed rpm	: 100	Ī	Tolerance cm3/1000 strokes Check tolerance	: 5.0
CRT mm min.	: > 19.00	1	cm3/1000s.	: 7.0
TORQUE CONTROL		+	Aneroid pressure hPa	: – : 500
Rated speed rpm rack travel mm		Ī	Rated speed rpm Del. quantity cm3/1000 strokes	
Tolerance mm	: +- 0.05	+	Tolerance	
Rated speed rpm	: 600	‡	cm3/1000 strokes Check tolerance	: +- 1.0
rack travel mm Tolerance mm	: 13.15	+	cm3/1000s.	: +- 3.0
ANEROID/ALTITUDE COMPENSATOR TEST		+	STARTING FUEL DEL	IVERY
SETTING		+	Rated speed rpm Del. quantity	: 100
Rated speed rpm	: 500	Ī	cm3/1000 strokes Tolerance	: 105.0
Pressure hPa rack travel mm	: 1000 : 13.15	‡	cm3/1000 strokes Check tolerance	: +- 5.0
Tolerance mm	: +- 0.05	+	cm3/1000s.	: +- 8.0
MEASUREMENT		Ī		
Pressure hPa Rated speed rpm Tolerance mm	: 500 : + 0.10	+	LOW IDLE	750
Rated speed rpm	: 500	†	Rated speed rpm rack travel mm Tolerance mm	
Pressure hPa	: 500	Ŧ	Del. quantity	
rack travel mm Tolerance mm	: 2.20 : + 0.15	<u>†</u>	cm3/1000 strokes Tolerance cm3/1000 strokes	
Pressure hPa	: 350	Ŧ	Check tolerance	
rack travel mm Tolerance mm	: 1.10 : +- 0.05	‡	cm3/1000s. Spreed	: +- 4.5
		‡	Tolerance cm3/1000 strokes	: 3.5

cm3/1000S.	:	5.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 01.05.96

Test oil

: ISO 4113

Combination No. : 0 402 076 789

Injection pump

Pump designation : PES6P120A720RS3352

EP type number : 0 412 026 780

Governor

Governer design. : RSV450...1050P2A599

: -4

Governer no.

: 0 421 833 524

Cust. part No. : RE66245

Customer-spec. information Customer : DEERE

: 6081AT001 Motor

Power KW

: 142.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C 40

Tolerance °C

2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: **+** 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 17.0

Tolerance bar : +- 1.0

Prestroke mm

3.60 : +- 0.05

Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order

: 1-5-3-6-2-

Phasing

: 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance °NW

: +- 0.75

Start of delivery mark

\*NW after s.c.d. : 6.25

Tolerance

: +- 0.50

Check

tolerance \*NW

: +- 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel

14.00

Difference ° CS : 2.50

BASIC SETTING

B12

Rated speed rpm : 1050	Tolerance cm3/1000 strokes : +- 1.0
Rack travel in mm : 11.20 Tolerance mm : + 0.05	Check tolerance cm3/1000s. : +- 3.0 Spreed Tolerance
Del. quantity cm3/1000 strokes : 130.5	cm3/1000 strokes : 4.0 Check tolerance
Tolerance cm3/1000 strokes : + 1.0	cm3/1000s. : 6.5
Check tolerance cm3/1000s. : + 3.0	CONTROL LEVER
Spreed Tolerance cm3/1000 strokes : 4.0	control lever position degree : 92.0 tolerance degree : +- 6.0  RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 10.20 Rated speed rpm : 1100
Del. quantity cm3/1000 strokes : 22.5 Tolerance	Tolerance 1/min : +- 5 rack travel mm : 4.00
cm3/1000 strokes : + 2.0 + Check tolerance + 4.5 + 4.5	Rated speed rpm : 1150 Tolerance 1/min : +- 5
Spreed + Tolerance + cm3/1000 strokes : 6.0 + Cm3/1000 strokes : 6.0	rack travel mm : 0.85 Tolerance mm : + 0.55 Rated speed rpm : 1250
Check tolerance cm3/1000s. : 8.0	rack travel mm : 4.00 Rated speed rpm : 1150
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800	position degree : 72.0 tolerance degree : +- 6.0
Rack travel in mm : 0.50 Tolerance mm : +- 0.30	Setting point w/out bumper spring
governor spring pre-tension	Rated speed rpm : 450 rack travel mm : 5.00
click setting x : 4.00	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 450 rack travel mm : 5.50 Tolerance mm : + 0.10
Rated speed rpm : 1050 Aneroid pressure hPa : 1200	Rated speed rpm : 100
Del. quantity cm3/1000 strokes : 130.5	CRT mm min. : > 19.00
Т	

		+ Aneroid pressure
TORQUE CONTROL		- + hPa : Rated speed rpm : 500
Rated speed rpm	: 1050 : 11.20	Del. quantity cm3/1000 strokes : 129.0
rack travel mm Tolerance mm	: +- 0.05	+ Tolerance + cm3/1000 strokes : +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 12.20	- Check tolerance - cm3/1000s. : +- 4.0
		+ BREAKAWAY - +
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm : 10.20 Rated speed rpm : 1100 Tolerance 1/min : +- 5
SETTING		
Rated speed rpm Pressure hPa	: 500 : 1200	STARTING FUEL DELIVERY
MEASUREMENT		Rated speed rpm : 100 rack travel mm : 20.50
Pressure hPa Rated speed rpm	: - : 500	Tolerance mm : +- 0.50  Del. quantity
rack travel mm Tolerance mm	: 10.90	cm3/1000 strokes : 105.0
Rated speed rpm		cm3/1000 strokes : +- 20.0 Check tolerance
Pressure hPa	: 835 : 12.00	
rack travel mm Tolerance mm	: 12.00 : + 0.20	+
Pressure hPa rack travel mm		LOW IDLE
Tolerance mm		Del. quantity cm3/1000 strokes : 22.5
START CUT-OUT		Tolerance + cm3/1000 strokes : +- 2.0
Rated speed rpm	: > 100	Check tolerance cm3/1000s. : +- 4.5
Check		+ Spreed + Tolerance
speed 1/min	: > 80	cm3/1000 strokes : 6.0 Check tolerance
FUEL DELIVERY CHA	ARACTERISTICS	- cm3/1000s. : 8.0
Aneroid pressure		<u> </u>
hPa Rated speed rpm	: 1200 : 650	<u> </u>
Del. quantity cm3/1000 strokes		End of test specification sheet
Tolerance		This of test specification sheet
cm3/1000 strokes Check tolerance		Ŧ
cm3/1000s.	: +- 4.0	Ī

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 28.03.96 Test oil : ISO 4113

Combination No. : 0 402 746 612

Injection pump

Pump designation : PES6P12OA32ORS7372 EP type number : 0 412 726 940

Governor

Governer design. : RQV250...1300PA1282K

Governer no. : 0 421 815 515

Cust. part No. : 3866784

Customer-spec. information
Customer : CDC
Motor : 6BTA
Power KW : 187.0

#### TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : +- 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 103

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 4.00
Tolerance mm : +- 0.05
Check

uneck

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30 Check

UHEUK

tolerance °NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 11.00 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 12.65 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 177.0	<u> </u>
Tolerance		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1300 Aneroid pressure
Check tolerance cm3/1000s.	: +- 4.0	hPa : 1200 Del. quantity
Spreed		cm3/1000 strokes : 177.0
Tolerance cm3/1000 strokes	: 5.0	cm3/1000 strokes : +- 1.0 Check tolerance
Check tolerance cm3/1000s.	: 9.0	+ cm3/1000s. : +- 4.0 + Spreed + Tolerance
Del. quantity		cm3/1000 strokes : 5.0 Check tolerance
cm3/1000 strokes Tolerance		cm3/1000s. : 9.0
cm3/1000 strokes Check tolerance		<u>+</u>
cm3/1000s. Spreed	: +- 5.0	CONTROL LEVER
Tolerance cm3/1000 strokes	: 8.0	+ control lever + position degree : 114.0
Check tolerance cm3/1000s.	: 12.0	tolerance degree : +- 4.0
		+ RATED SPEED
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	rack travel mm : 11.60 Rated speed rpm : 1375 Tolerance 1/min : +- 5
GUIDE SLEEVE TRAV	/EL	rack travel mm : 7.50 Rated speed rpm : 1470
Rated speed rpm guide sleeve		Tolerance 1/min : +- 15
travel mm Tolerance mm	: 1.39 : + 0.20	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50 + Rated speed rpm : 1650
Rated speed rpm guide sleeve	: 1355	Hated speed (piii . 1050
travel mm Tolerance mm	: 8.32 : + 0.15	+ LOW IDLE
Rated speed rpm	: 885	† †
guide sleeve travel mm Tolerance mm	: 5.46 : +- 0.25	<pre>+ control lever + position degree : 75.0 + tolerance degree : +- 4.0</pre>
Rated speed rpm	: 480	+ Testing:
guide sleeve travel mm	: 3.18	+ Rated speed rpm : 300
Tolerance mm	: +- 0.25	rack travel mm : 7.00 Tolerance mm : +- 0.20
Rated speed rpm guide sleeve	: 1860	Rated speed rpm : 250
travel mm Tolerance mm	: 13.50 : +- 0.50	CRT mm min. :> 8.00
		T

Rated speed rpm	: 450	+
TORQUE CONTROL		+ Aneroid pressure
Rated speed rpm	: 1300	+ hPa : 1200
rack travel mm Tolerance mm	: 12.65	+ Rated speed rpm : 900
Tolerance mm	: +- 0.05	∔ Del. quantity
Datasi awaasi uuu	. 000	- cm3/1000 strokes : 183.0
Rated speed rpm	: 900 · 12 40	+ Tolerance + cm3/1000 strokes : +- 3.0
rack travel mm Tolerance mm	: +- 0.10	+ Check tolerance
		+ cm3/1000s. : +- 6.0
Rated speed rpm	: 700	+ Spreed
rack travel mm Tolerance mm	12.45	+ Tolerance + cm3/1000 strokes : 8.0
rocerance in	, +- 0.10	Check tolerance
Rated speed rpm	; 500	+ cm3/1000s. : 12.0
rack travel mm	: 12.10	+
Tolerance mm	: +- 0.20	+ Aneroid pressure
		+ hPa : - + Rated speed rpm : 1300
ANEROID/ALTITUDE		
COMPENSATOR TEST		+ cm3/1000 strokes : 111.5
		+ Tolerance
		+ cm3/1000 strokes : +- 1.0
SETTING		+ Check tolerance
Rated speed rpm	. 1300	$\frac{1}{1}$ cm3/1000s. : +- 3.0
Pressure hPa	: 1200	
		+ BREAKAWAY
MEASUREMENT		<u>†</u>
Pressure hPa	: -	Rack travel in mm: 11.60
Rated speed rom	: 1300	Rated speed rpm : 1375
rack travel mm Tolerance mm	: 9.90	+ Tolerance 1/min : +- 5
Tolerance mm	: +- 0.20	†
Rated speed rpm	: 1300	Ī
	505	+ STARTING FUEL DELIVERY
Pressure hPa	: 585 : 11.80	+ Rated speed rpm : 100
rack travel mm Tolerance mm	: + 0.20	+ Rated speed rpm : 100 + rack travel mm : 11.90
TOCCI GITCC TIME	0.20	+ Tolerance mm : + 0.50
Pressure hPa	: 255	Del. quantity
rack travel min	: 10.50	+ cm3/1000 strokes : 185.0
Tolerance mm	: +- 0.20	+ Tolerance + cm3/1000 strokes : +- 20.0
		Check tolerance
START CUT-OUT		+ cm3/1000s. : +- 25.0
		†
Rated speed rpm	: > 100	†
Rated speed rpm	: < 250	İ
Check		LOW IDLE
speed 1/min	: > 80	+
Check		+ Del. quantity
speed 1/min	: < 260	+ cm3/1000 strokes : 33.0
		+ Tolerance + cm3/1000 strokes : +- 3.0
		T (1117) 1000 201 0002 1 4- 2.0

Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. 12.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.04.96 Test oil : ISO 4113

Combination No. : 9 400 030 730

Injection pump

Pump designation : PES6A95D320/3RS2881

EP type number : 9 410 037 215

Governor

Governer design. : RSV475...1100A0C844R

Governer no. : 9 420 034 710

Cust. part No. : 3928599

Customer-spec. information Customer : CDC Motor Motor : 6BTA Power KW : 111.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 8.50 Tolerance : + 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

# BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 12.00 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 103.5	+ Check tolerance cm3/1000s. : 6.5
cm3/1000 strokes : +- 1.0	CONTROL LEVER
Check tolerance cm3/1000s. : +- 3.0	control lever position degree : 99.0
Spreed Tolerance cm3/1000 strokes : 4.0	tolerance degree : +- 4.0  RATED SPEED
Check tolerance cm3/1000s. : 6.5	rack travel mm : 11.00 Rated speed rpm : 1155 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 22.0 Tolerance	rack travel mm : 4.50 Rated speed rpm : 1225
cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed	Tolerance 1/min : +- 5  rack travel mm : 0.85  Tolerance mm : +- 0.55
Tolerance cm3/1000 strokes : 6.0 Check tolerance	Rated speed rpm : 1300 rack travel mm : 4.50
cm3/1000s. : 8.0	Rated speed rpm : 1225
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 76.5 tolerance degree : +- 4.0
Rated speed rpm : 800	Setting point w/out bumper spring
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 475 rack travel mm : 4.70
governor spring pre-tension click setting x : 5.00	Testing: Rated speed rpm : 475
FULL LOAD DELIVERY AT FULL LOAD	rack travel mm : 5.20
Rated speed rpm : 1100 Aneroid pressure	Rated speed rpm : 100
hPa : 900 Del. quantity	+ CRT mm min. : > 19.00
cm3/1000 strokes : 103.5 Tolerance	TORQUE CONTROL
cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : +- 3.0 Spreed	Rated speed rpm : 1100 rack travel mm : 12.00 Tolerance mm : +- 0.05
Tolerance cm3/1000 strokes : 4.0	Rated speed rpm : 800

B20

ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa	: 500 : 900	
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 600 : 12.30 : + 0.20	
Pressure hPa rack travel mm Tolerance mm	: 360 : 10.40 : + 0.20	
	0.20	
Aneroid pressure hPa Rated speed rpm		
Aneroid pressure hPa Rated speed rpm Del. quantity	ARACTERISTICS : 900	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	ARACTERISTICS : 900 : 800	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	ARACTERISTICS : 900 : 800 : 118.0	
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	### PRACTERISTICS  #### 900 #############################	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  Aneroid pressure	### Property of the control of the c	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	### 300 ### 30	

Rated speed rpm : 1155 Tolerance 1/min : +- 5 STARTING FUEL DELIVERY Rated speed rpm : 100 rack travel mm : 20.50 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 120.5 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 15.0 LOW IDLE Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s.: +- 4.5 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 8.0

End of test specification sheet

Rack travel in mm: 11.00

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 07.11.95 Test oil : ISO 4113

Combination No. : 9 400 230 107

Injection pump

Pump designation : PES6A100D320/3RS2691

: -2

EP type number : 9 410 230 028

Governor

Governer design. : RQV350...1200AB1233R

Governer no. : 9 420 231 018

Cust. part No. : 3912643

Customer-spec. information Customer : CDC : 6CT830 Motor Power KW : 157.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance \*C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING LUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.85
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance \*NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 10.80 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 113.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

822

Check tolerance	Aneroid pressure hPa : 700
cm3/1000s. : 6.5	Del. quantity
Del. quantity	cm3/1000 strokes : 113.5 Tolerance
cm3/1000 strokes : 19.0	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : +- 2.0 Check tolerance	- cm3/1000s. : +- 3.0
cm3/1000s. : +- 4.5	Spreed Tolerance
Spreed	cm3/1000 strokes : 4.0
Tolerance - cm3/1000 strokes : 6.0 -	Check tolerance : 6.5
Check tolerance -	
cm3/1000s. : 8.0	
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR -	control lever
	position degree : 93.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 3.0
GOIDE SEEEVE TRAVEL	RATED SPEED
Rated speed rpm : 250	
guide sleeve travel mm : 0.10	- rack travel mm : 9.80 - Rated speed rpm : 1245
Tolerance mm : +- 0.10	F Rated speed rpm : 7245 F Tolerance 1/min : +- 5
	-
Rated speed rpm : 1200	rack travel mm : 4.00
guide sleeve travel mm : 6.90	- Rated speed rpm : 1330 - Tolerance 1/min : +- 15
Tolerance mm : +- 0.15	- Toterance Dimin : Y- 13
1	rack travel mm : 0.50
Rated speed rpm : 350	Tolerance mm : + 0.50
guide sleeve - travel mm : 1.25 -	Rated speed rpm : 1400
Tolerance mm : + 0.25	
Rated speed rpm : 450 - guide sleeve -	LOW IDLE
travel mm : 2.15 Tolerance mm : +- 0.25	- control lever
Toterance min . V = 0.25	- position degree : 62.0
Rated speed rpm : 1350 - guide sleeve	tolerance degree : + 3.0
guide sleeve travel mm : 8.40 Tolerance mm : +- 0.25	- Testing:
Tolerance mm : +- 0.25	Patrid arred are 2750
	- Rated speed rpm : 350
GUIDE SLEEVE POSITION	rack travel mm : 4.70 Tolerance mm : +- 0.10
Rated speed rpm : 1435	- Rated speed rpm : 250
Rack travel in mm: 8.00	- CRT mm min. : > 8.00
Tolerance mm : + 1.30	•
	- TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	•
	Rated speed rpm : 1200
Rated speed rpm : 1200	rack travel mm : 10.80

B23

Tolerance mm	: +- 0.05	†
Rated speed rpm	: 500	BREAKAWAY
rack travel mm	9,60	
olerance mm	: +- 0.10	
		Rack travel in mm: 9.80
		Rated speed rpm : 1245
NEROID/ALTITUDE		Tolerance 1/min : +- 5
MPENSATOR TEST		†
ETTING		STARTING FUEL DELIVERY
lated speed rpm	: 500	Rated speed rpm : 100
ressure hPa	: 700	rack travel mm : 20.00
ack travel mm	: 10.85	Tolerance mm : +- 1.00
olerance nm	: +- 0.05	+ Del. quantity
FLOCULTUS INTE	0.05	cm3/1000 strokes : 160.0
ACHDEMENT		
ASUREMENT		+ Tolerance
		+ cm3/1000 strokes : +- 10.0
ressure hPa	; -	+ Check tolerance
ted speed rpm	; 500	+ cm3/1000s. : +- 15.0
k travel mm	: 9.60	+
lerance mm	: <b>←</b> 0.10	†
ed speed rpm	: 500	<del></del>
essure hPa	: 345	+ LOW IDLE
	: 345 : 10.50	T Del guentitus
ck travel mm		Del. quantity
erance mm	: <b>←</b> 0.20	cm3/1000 strokes : 19.0
	<b></b>	+ Tolerance
essure hPa	: 260	+ cm3/1000 strokes : $+$ 2.0
ck travel nm	: 9.95	- Check tolerance
erance sm	: +- 0.05	+ cm3/1000s. : +- 4.5
· · · · - · · · · · · · · · · · · ·		Spreed
	····	Tolerance
ART CUT-OUT		- cm3/1000 strokes : 6.0
AU (0) (0)		+ Check tolerance
ted speed pos	: > 100	
ited speed rpm		+ cm3/1000s. : 8.0
ed speed rpm	: < 290	Ī
neck		+
eed 1/min	: > 80	+
ck		
eed 1/min	: < 300	Find of Assa specification above
		End of test specification shee
JEL DELIVERY CHA	RACTERISTICS	+
Aneroid pressure		1
ineroja pressure iPa		I
	. 500	T
ated speed rpm	: 500	<b>†</b>
el. quantity	A7 5	†
n3/1000 strokes	: 87.5	t
olerance	_	†
3/1000 strokes	: <b>←</b> 2.0	+
neck tolerance		+

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Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 05.03.96 Test oil : ISO 4113

Combination No. : 0 402 646 761

Injection pump

Pump designation : PE6P120A320LS7834

: -10

EP type number : 0 412 626 853

Governor

Governer design. : RQ300/1050PA1031-19

Governer no. : 0 421 801 768

Cust. part No. : 0260743802

Customer-spec. information Customer : MB-NFZ Motor : 0M401 LA Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : ← 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : ← 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 6-3-5-2-4-

: 1-

Phasing : 0-60-120-180-240

: -300-360 Tolerance : +- 0.30

Check

tolerance \*NW : +- 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm : 14.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 230.0

Tulomonos	,	
Tolerance cm3/1000 strokes	· - 10 I	Rated speed rpm : 1270
CHO/1000 SCIORES	I	guide steeve
Check tolerance	terrendriche entre Wei der den entre date eine delt den den entre den eine den entre entre entre entre entre e	travel mm : 11.50
cm3/1000s.	: + 4.0	Tolerance mm : +- 0.50
CM37 100001	1	TO CET diffee min
Spreed		
Tolerance	+	GUIDE SLEEVE POSITION
cm3/1000 strokes	: 5.0 +	
Charle Astronomics		Rated speed rpm : 600
Check tolerance cm3/1000s.	: 9.0	Rack travel in mm : 20.00
CMO7 (UUUS.	: 9.0	Tolerance mm : +- 0.80
Rated speed rpm	: 300	Toter arice min , 4 0.00
Marca Speca (par	. 333	
Rack travel in mm	: 6.30	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm	: ← 0.30 +	
Del. quantity	+	Rated speed rpm : 550
cm3/1000 strokes	: 13.0	Aneroid pressure
Tolerance	+	hPa : 1000
cm3/1000 strokes	: +- 3.0 +	Del. quantity
Check tolerance	†	cm3/1000 strokes : 230.0
cm3/1000s.	: +- 6.0	Tolerance cm3/1000 strokes : +- 1.0
Spreed Tolerance	Ī	Check tolerance
cm3/1000 strokes	: 6.0	cm3/1000s. : +- 4.0
Check tolerance	· • • • • • • • • • • • • • • • • • • •	Spreed
cm3/1000S.	: 10.0	Tolerance
	+	cm3/1000 strokes : 5.0
	+	Check tolerance
(B) SETTING OF IN	JECTION PUMP +	cm3/1000s. : 9.0
WITH GOVERNOR	+	
	I	
GUIDE SLEEVE TRAVE	EL +	CONTROL LEVER
Rated speed rpm	: 300	control lever
guide sleeve	. 500	position degree : 99.0
travel mm	: 1.78	tolerance degree : +- 4.0
Tolerance mm	: + 0.10 +	
	+	RATED SPEED
Rated speed rpm	: 1104	
guide steeve	+	rack travel mm : 13.80
travel mm	: 6.51	Rated speed rpm : 1098
Tolerance mm	: + 0.10	Tolerance 1/min : +- 8
Rated speed rpm	: 1050	rack travel mm : 4.00
guide sleeve	· 1050	Rated speed rpm : 1195
travel mm	: 6.00	Tolerance 1/min : +- 15
Tolerance mm	: + 0.10	Committee and the second secon
		rack travel mm : 0.75
	+	IGCY CIGACC IMM . O.12
Rated speed rpm	: 379	Tolerance mm : +- 0.75
guide sleeve	+	
guide sleeve travel mm	: 3.11	Tolerance mm : +- 0.75
guide sleeve	+	Tolerance mm : +- 0.75
guide sleeve travel mm Tolerance mm	: → 3.11 : → 0.10	Tolerance mm : ← 0.75 Rated speed rpm : 1300
guide sleeve travel mm Tolerance mm Rated speed rpm	: 3.11	Tolerance mm : +- 0.75
guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve	: 3.11 : ← 0.10 : 550	Tolerance mm : ← 0.75 Rated speed rpm : 1300
guide sleeve travel mm Tolerance mm Rated speed rpm	: → 3.11 : → 0.10	Tolerance mm : ← 0.75 Rated speed rpm : 1300

Tolerance degree : ← 4.0  Testing:  Rated speed rpm : 300 rack travel mm : 3.50 rack travel mm : 2.00 Rated speed rpm : 350 rack travel mm : 350 rack travel mm : 2.00 Rated speed rpm : 350 rack travel mm : 2.00 Rated speed rpm : 350 rack travel mm : 2.00 Rated speed rpm : 350  Rated speed rpm : 350  Rated speed rpm : 200  Rated speed rpm : 200  Rated speed rpm : 1050 Rated speed rpm : 1050 Rated speed rpm : 1050 Rated speed rpm : 4.80 Tolerance mm : ← 0.10  Rated speed rpm : 4.80 Tolerance mm : ← 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.05  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.05  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.05  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.05  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.05  Rated speed rpm : 500 Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : ← 0.05  Rated speed rpm : 500  ated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 400	באַת.rol lever position degree	: 60.0	rack travel mm : 14.15 Tolerance mm : +- 0.20	
Rated speed rpm : 300				_
Rated speed rpm : 300	Testing:		+ START CUT-OUT	
Tolerance mm	_		Rated speed rpm : > 100	
Tolerance mm : → 0.10  rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : → 20  Rated speed rpm : 200  CRT mm min. : > 5.30  TORQUE CONTROL  Rated speed rpm : 150 Rated speed rpm : 550 Tolerance mm : → 0.05  Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : → 0.10  Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : → 0.10  Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : → 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 400 Rated speed rpm : 400 Rated speed rpm : 14.80 Tolerance mm : → 0.05  Rated speed rpm : 14.80 Tolerance mm : → 0.05  Rated speed rpm : 14.80 Tolerance mm : → 0.05  Rated speed rpm : 14.80 Tolerance mm : → 0.05  Rated speed rpm : 14.80 Tolerance mm : → 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : → 0.05  MEASUREMENT  Pressure hPa : 400 rack travel mm : 10.50 Tolerance mm : → 0.15 Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : → 0.15 Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : → 0.15 Rated speed rpm : 1098 Tolerance mm : → 0.15 Rated speed rpm : 1098 Tolerance mm : → 0.15 Rated speed rpm : 1098 Tolerance mm : → 0.20  STARTING FUEL DELIVERY	Rated speed rpm	: 300	+ Rated speed rpm : < 220	
Speed 1/min	rack travel mm	3.50	†	
Rated speed rpm   :   2.00	iolerance mm	: +- 0.70		
Speed 1/min   : < 240	nach though ma	. 2.00		
Rated speed rpm : 200	Pated speed roa	: 2.00 · 350		
Rated speed rpm : 200  CRI mm min. : > 5.30  Aneroid pressure hPa : 1000 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 229.0 Tolerance mm : + 0.05  Rated speed rpm : 14.80 Tolerance mm :	Tolerance 1/min	· +- 20	T speed William : 240	
Aneroid pressure   hPa   : 1000   Rated speed rpm   : 1050   Delegance mm   : + 0.05   East speed rpm   : 500   East speed rpm   : 1050   East speed rpm   : 1000   East spe	TOTAL	. 23		
NPa	Rated speed rpm	: 200	FUEL DELIVERY CHARACTERISTICS	
NPa	CRI mm min.	: > 5.30	Aneroid pressure	
TORQUE CONTROL  Rated speed rpm : 550  Rated speed rpm : 14.80  Tolerance mm : + 0.05  Rated speed rpm : 1050  Rated speed rpm : 14.80  Tolerance mm : + 0.10  Rated speed rpm : 14.80  Tolerance mm : 500  ANEROID/ALITIUBE  COMPENSATOR TEST  SETTING  Rated speed rpm : 400  Rated speed rpm : 14.80  Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -  Rated speed rpm : 400  Rated speed rpm : 10.50  Tolerance mm : + 0.15  Rack travel imm : 13.80  Rated speed rpm : 400  Pressure hPa : 400  Rated speed rpm : 400  STARTING FUEL DELIVERY		. 3.33	→ hPa : 1000	
Del. quantity			+ Rated speed rpm : 1050	
Rated speed rpm : 550 rack travel mm : 14.80 Tolerance mm : + 0.05  Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : + 0.10  Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : + 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : + 0.05  Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 129.0 Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000s. : 12.0  MEASUREMENT  Pressure hPa : 400 rack travel mm : 10.50 Tolerance mm : + 0.15  Rack travel in mm : 13.80 Rated speed rpm : 400  Pressure hPa : 400 rack travel mm : 12.90 Tolerance mm : + 0.20  STARTING FUEL DELIVERY	TORQUE CONTROL		+ Del. quantity	
Tack travel mm			+ cm3/1000 strokes : 229.0	
Tolerance mm				
Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : + 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 400 Pressure hPa : 10.05  MEASUREMENT  Pressure hPa : - 0.05  Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400 Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : + 4.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000 strokes : 8.0  Rated speed rpm : 4.00  Rated speed rpm : 4.00  Rated speed rpm : 400  Pressure hPa : - Rated speed rpm : 400  Rated speed rpm : 400  Tolerance mm : + 0.15  Rack travel in mm : 13.80 Rated speed rpm : 1098 Tolerance 1/min : + 8  Pressure hPa : 400 Tolerance mm : + 0.20  STARTING FUEL DELIVERY	rack travel mm	: 14.80		
Rated speed rpm : 1050 rack travel mm : 14.80 Tolerance mm : + 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : 14.80 Tolerance mm : 14.80 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : + 0.05  Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : + 0.05  Rated speed rpm : 400 Pressure hPa : 1000 Rated speed rpm : 400 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 Pressure hPa : - Rated speed rpm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400 Spreed Tolerance cm3/1000s. : 12.0  MEASUREMENT  Pressure hPa : - Rated speed rpm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400 Spreed Tolerance rmm : 13.80 Rated speed rpm : 10.98 Tolerance 1/min : + 8  Pressure hPa : 400 STARTING FUEL DELIVERY	Tolerance mm	: +- 0.05		
Tolerance mm : 14.80 Tolerance mm : + 0.10  Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : + 0.05  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 129.0 Tolerance cm3/1000 strokes : 129.0 Tolerance cm3/1000 strokes : 129.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s strokes : 129.0 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 Tolerance mm : + 0.15 Rated speed rpm : 10.90 Tolerance mm : + 0.15 Rated speed rpm : 10.98 Tolerance 1/min : + 8  Pressure hPa : 400 Tolerance mm : + 0.20  STARTING FUEL DELIVERY	Dadad sassal sas	. 1050		
Tolerance mm	nack tabuel m	: 1050		
Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400 Pressure hPa : - Rated speed rpm : 400 Tolerance rpm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 10.50 Tolerance mm : + 0.15  Rack travel in mm : 13.80 Rated speed rpm : 1098 Tolerance 1/min : + 8  Pressure hPa : 400 Pressure hPa : 400 STARTING FUEL DELIVERY	Tolerence mm	· + 0.10		
Rated speed rpm : 700 rack travel mm : 14.80 Tolerance mm : + 0.05  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - 0.05  MEASUREMENT  Pressure hPa : 400 Rated speed rpm : 400 Rated speed rpm : 400 Tolerance rmm : + 0.05  MEASUREMENT  Pressure hPa : - 0.15  Rated speed rpm : 400 Tolerance mm : + 0.15  Rack travel in mm : 13.80 Rated speed rpm : 1098 Tolerance 1/min : + 8  Pressure hPa : 400 Pressure hPa : 400 STARTING FUEL DELIVERY	TO CET MITTEE THE	. , 0.10	,	
Tolerance mm	Rated speed rom	: 700		
Tolerance mm	rack travel mm	: 14.80	+	
ANEROID/ALTITUDE COMPENSATOR TEST  COMPENSATOR TEST  SETTING  Rated speed rpm : 500  Del. quantity cm3/1000 strokes : 129.0  Tolerance cm3/1000 strokes : +- 1.0  Check tolerance cm3/1000s. : +- 4.0  Spreed Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : +- 0.05  MEASUREMENT  Pressure hPa : Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : +- 0.15  Rack travel in mm : 13.80 Rated speed rpm : 1098 Tolerance 1/min : +- 8  Pressure hPa : 400 Tolerance 1/min : +- 8  Pressure hPa : 400 STARTING FUEL DELIVERY	Tolerance mm	: ← 0.05	Aneroid pressure	
ANEROID/ALTITUDE COMPENSATOR TEST  Del. quantity cm3/1000 strokes : 129.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Pressure hPa : 1000 Tolerance mm : +0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : +- 0.15  Rated speed rpm : 400 Pressure hPa : - Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : +- 0.15  Rated speed rpm : 400 Rated speed rpm : 1098 Rated speed rpm : 400  Pressure hPa : 400 STARTING FUEL DELIVERY				
COMPENSATOR TEST  Compensator				
Tolerance				
Cm3/1000 strokes : +- 1.0	COMPENSATOR TEST			
Check tolerance   cm3/1000s. : +- 4.0				
Rated speed rpm : 400 Pressure hPa : 1000 Tolerance mm : 14.80 Tolerance mm : 400 Pressure hPa : 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400 Pressure hPa : - Rated speed rpm : 400 Tolerance mm : 10.50 Tolerance mm : 400  Pressure hPa : 400 Rated speed rpm : 1098 Tolerance 1/min : + 8  Pressure hPa : 400 Tolerance mm : 12.90 Tolerance mm : 12.90 Tolerance mm : + 0.20  STARTING FUEL DELIVERY	CETTING		<b>1</b>	
Rated speed rpm : 400 Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400 Pressure hPa : - 0.15  Rack travel in mm : 13.80 Rated speed rpm : 1098 Tolerance 1/min : + 8  Pressure hPa : 400 Pressure hPa : 400 STARTING FUEL DELIVERY	SELLTING			
Pressure hPa : 1000 rack travel mm : 14.80 Tolerance mm : +- 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : +- 0.15  Rated speed rpm : 400 Pressure hPa : - Rated speed rpm : 10.50 Tolerance mm : +- 0.15  Rated speed rpm : 10.98 Rated speed rpm : 400  Pressure hPa : 400 STARTING FUEL DELIVERY	Rated speed rom	• 400		
rack travel mm : 14.80 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -				
Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -				
## Pressure hPa : - ## BREAKAWAY  Rated speed rpm : 400			T .	
Pressure hPa : -	MEASUREMENT		cm3/1000s. : 12.0	
Rated speed rpm : 400 rack travel mm : 10.50 Tolerance mm : + 0.15  Rated speed rpm : 400  Pressure hPa : 400 rack travel mm : 12.90 Tolerance mm : + 0.20  **Tolerance mm : + 0.20	THE REPORT OF THE PARTY OF THE			
rack travel mm : 10.50  Tolerance mm : + 0.15  Rated speed rpm : 400  Pressure hPa : 400  rack travel mm : 12.90  Tolerance mm : + 0.20  Tolerance mm : + 0.20	Pressure hPa	: -	BREAKAWAY	
Tolerance mm : + 0.15  Rated speed rpm : 400  Pressure hPa : 400  rack travel mm : 12.90  Tolerance mm : + 0.20  Rack travel in mm : 13.80  Rated speed rpm : 1098  Tolerance 1/min : + 8   STARTING FUEL DELIVERY	Rated speed rpm		+	
Rated speed rpm : 1098 Tolerance 1/min : + 8  Pressure hPa : 400 rack travel mm : 12.90 Tolerance mm : + 0.20  Rated speed rpm : 1098 Tolerance 1/min : + 8  STARTING FUEL DELIVERY	rack travel mm		+	
Rated speed rpm : 400	Tolerance mm	: <del>+-</del> 0.15		
Pressure hPa : 400 +		4.00	· · ·	
rack travel mm : 12.90	Rated speed rpm	: 400	+ Tolerance 1/min : +- 8	
Tolerance mm : +- 0.20 + STARTING FUEL DELIVERY	Pressure hPa		+	
+				_
Pressure hPa : 600 + Rated speed rpm : 100	Tolerance mm	: +- 0.20	+ STARTING FUEL DELIVERY	
	Pressure hPa	: 600	Rated speed rpm : 100	

Del. quantity cm3/1000 strokes	:	210.0
Tolerance	•	210.0
cm3/1000 strokes	: 4	<b>⊢</b> 15.0
Check tolerance		⊢ 10 N

# LOW IDLE

Rated speed rpm	:	300
rack travel mm	:	6.30
Tolerance mm	: +	- 0.30
Del. quantity		47.0
cm3/1000 strokes	:	13.0
Tolerance		7.0
cm3/1000 strokes	; +	- 3.0
Check tolerance cm3/1000s.		- 6.0
	; •	- 0.0
Spreed Tolerance		
cm3/1000 strokes	•	6.0
Check tolerance	•	5.0
cm3/1000s.	:	10.0
	•	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.04.96 : ISO 4113

Combination No. : 9 400 085 392

Injection pump

Pump designation : PES6A95D32ORS2806

EP type number : 0 410 896 898

Governor

Governer design. : RSV375...1150A0c830R

Governer no.

: 9 420 083 305

Cust. part No. : 82085500

Customer-spec. information Customer : VALMET Motor : 620 DS

Power KW

: 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40

: +- 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.75 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +-1.50

Firing order

: 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

: 10.50 travel Tolerance mm : + 1.50 Difference \* CS : 4.00

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm: 12.75 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 95.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 3.0

		1	
Spreed Tolerance cm3/1000 strokes	: 3.5	control lever position degree tolerance degree	: 37.0 : +- 4.0
Check tolerance cm3/1000s.	: 8.0	control lever position degree tolerance degree	
Del. quantity cm3/1000 strokes Tolerance	: 12.5	+ RATED SPEED	
cm3/1000 strokes Check tolerance	: +- 2.0	rack travel mm Rated speed rpm	
cm3/1000s. Spreed	: + 4.5	Tolerance 1/min	
Tolerance cm3/1000 strokes	; 5.5	rack travel mm Rated speed rpm	: 1255
Check tolerance cm3/1000s.	: 9.0	† Tolerance 1/min	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	+ rack travel mm + Tolerance mm + Rated speed rpm +	: +- 0.55
		LOW IDLE	
GUIDE SLEEVE POSIT	ITON	Ī	
Rated speed rpm	: 800	control lever position degree	: 66.0
Rack travel in mm Tolerance mm		tolerance degree	: +- 4.0
governor spring pre-tension		+ control lever + position degree + tolerance degree	
click setting x	: 3.00	Setting point w/c	out bumper spring
FULL LOAD DELIVERY	AT FULL LOAD STOP	Rated speed rpm rack travel mm	
Rated speed rpm Aneroid pressure	: 1150	Testing:	
hPa Del. quantity	: -	† Rated speed rpm	: 375
cm3/1000 strokes Tolerance	: 95.0	rack travel mm Tolerance mm	: 5.50 : +- 0.10
cm3/1000 strokes Check tolerance		rack travei mm	
cm3/1000s. Spreed	: +- 3.0	+ Rated speed rpm + Tolerance 1/min	
Tolerance cm3/1000 strokes Check tolerance	: 3.5	Rated speed rpm	: 100
cm3/1000s.	: 8.0	CRT mm min.	: > 19 00
CONTROL LEVES		TORQUE CONTROL	
CONTROL LEVER		Rated speed rpm rack travel mm	

Toterance mm	: +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 700 : 13.85 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 750 : 13.85 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.75 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm	: - : 700
Del. quantity	
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	: <del></del> 2.0
cm3/1000s.	: +- 4.0
BREAKAWAY  Rack travel in mm	: 11.70
Rack travel in mm Rated speed rpm	: 1175 : +- 5
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 1175 : + 5 IVERY : 100 : 20.00 : + 1.00
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 1175 : +- 5 IVERY  : 100 : 20.00 : +- 1.00 : 196.0
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: 1175 : +- 5 IVERY  : 100 : 20.00 : +- 1.00 : 196.0
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance	: 1175 : +- 5 IVERY  : 100 : 20.00 : +- 1.00 : 196.0
Rack travel in mm Rated speed rpm Tolerance 1/min  STARTING FUEL DEL Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: 1175 : +- 5 IVERY  : 100 : 20.00 : +- 1.00 : 196.0 : +- 7.5

Tolerance		
cm3/1000 strokes	: +	2.0
Check tolerance	•	
cm3/1000s.	: +-	4.5
Spreed	•	
Tolerance		
cm3/1000 strokes	:	5.5
Check tolerance		
cm3/1000s.	;	9.0

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.03.96 Test oil : ISO 4113

Combination No. : 9 400 083 426

Injection pump

Pump designation : PES4A80D320/3RS1265

EP type number : 9 400 083 055

Governor

Governer design. : RSV350...1200A2C627R

Governer no. : 9 420 083 288

Cust. part No.

Customer-spec. information
Customer : MWM
Motor : D225-4

### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0

CO4

x length mm	: 600
REMARKS	
(A) INJECTION PUM Set equal deliver per values	
BEGINNING OF DELI	VERY
Test pressure bar Tolerance bar	: 26.0 : +- 1.0
Prestroke mm Tolerance mm Check	: 2.25 : +- 0.05
tolerance mm	: +- 0.10
Rack travel in mm Tolerance mm	: 10.50 : +- 1.50
Firing order	: 1-3-4-2
Phasing	: 0-90-180-270
Beginning of deli	very differende
and maximum rack travel Tolerance mm Difference * CS	: 10.50 : + 1.50 : 4.50
BASIC SETTING	
Rated speed rpm	: 1200
Rack travel in mm Tolerance mm	: 9.45 : +- 0.05
Del. quantity cm3/1000 strokes	: 51.0
Tolerance cm3/1000 strokes	: +- 0.5
Check tolerance cm3/1000S.	: +- 2.0

Spreed

Tolerance cm3/1000 strokes : 2.5	control lever position degree : 101.0
Check tolerance cm3/1000s. : 4.0	tolerance degree : +- 4.0
Rated speed rpm : 350	RATED SPEED rack travel mm : 8.40
Rack travel in mm: 7.00 Tolerance mm: +- 0.10	rack travel mm : 8.40 Rated speed rpm : 1245 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 9.0	rack travel mm : 4.00
Tolerance + 1.5	Rated speed rpm : 1300 Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : +- 3.5	rack travel mm : 1.00
Spreed Tolerance cm3/1000 strokes : 4.0	Tolerance mm : +- 0.70 Rated speed rpm : 1450
Check tolerance cm3/1000s. : 6.0	
<del> </del>	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	<pre>control lever position degree : 74.0 tolerance degree : +- 4.0</pre>
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 350 rack travel mm : 5.50
Rack travel in mm : 0.65 Tolerance mm : + 0.35	Testing:
governor spring pre-tension click setting x : 4.75	Rated speed rpm : 350 rack travel mm : 6.00 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 500 Tolerance 1/min : +- 30
Rated speed rpm : 1200 Aneroid pressure	Rated speed rpm : 100
hPa : - + Del. quantity +	CRT mm min. : > 19.00
cm3/1000 strokes : 51.0 + Tolerance	TOPOUT CONTROL
cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0	TORQUE CONTROL  Rated speed rpm : 1200
Spreed + Tolerance +	Rated speed rpm : 1200 rack travel mm : 9.45 Tolerance mm : +- 0.05
cm3/1000 strokes : 2.5 + Check tolerance	Rated speed rpm : 500
cm3/1000s. : 4.0	rack travel mm : 9.50 Tolerance mm : + 0.10
CONTROL LEVER	Rated speed rpm : 400 rack travel mm : 10.90
VOITHVE REFER	- 1017 Grande mill ( 10170

Tolerance mm: +- 0.30

# BREAKAWAY

Rack travel in mm : 8.40
Rated speed rpm : 1245
Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

# LOW IDLE

Rated speed rpm : 350 rack travel mm : 7.00 : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 9.0 Tolerance cm3/1000 strokes : +-1.5 Check tolerance cm3/1000s. 3.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 6.0

BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 05.05.95 Edition Test oil : ISO 4113 Combination No. : 0 402 046 827 Injection pump Pump designation : PES6P120A320RS3284 EP type number : 0 412 026 749 Governor Governer design. : RQ275/1050PA999-3 Governer no. : 0 421 801 598 Cust. part No. : CCEP5119A

Customer-spec. information Customer : RVI Motor : MIDR/PR 062045 Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C

: +- 2.0 Tolerance °C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 ក់ឧព័ Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 10.35 : +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 155.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000S.

: +- 4.0

Spreed

C07

Tolerance - cm3/1000 strokes : 5.0	rack travel mm : -6.30 Rated speed rpm : 1205
Check tolerance - cm3/1000S. : 9.0 -	Tolerance 1/min : +- 15
Rated speed rpm : 275	rack travel mm : -9.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
Rack travel in mm : -5.40 Tolerance mm : +- 0.10 Del. quantity cm3/1000 strokes : 21.0	LOW IDLE
Tolerance cm3/1000 strokes : + 2.0 Check tolerance cm3/1000s. : + 5.0	control lever position degree : 252.0 tolerance degree : +- 4.0
Spreed Tolerance cm3/1000 strokes : 8.0	Testing:
Check tolerance - cm3/1000s. : 12.0	Rated speed rpm : 275 rack travel mm : -5.40 Tolerance mm : +- 0.10
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : -8.10 Rated speed rpm : 340 Tolerance 1/min : +- 20
GUIDE SLEEVE POSITION	Rated speed rpm : 200
Rated speed rpm : 600	CRT mm max. : < -4.00
Rack travel in mm : 20.00 Tolerance mm : +- 0.80	TORQUE CONTROL Rated speed rpm : 1050
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 700 Aneroid pressure hPa : 1000	ANEROID/ALTITUDE COMPENSATOR TEST
Del. quantity cm3/1000 strokes : 155.0 Tolerance	SETTING
cm3/1000 strokes : + 1.0 Check tolerance	- Rated speed rpm : 500 - Pressure hPa : 1000
cm3/1000S. : +- 4.0 Spreed Tolerance	- MEASUREMENT
cm3/1000 strokes : 5.0 Check tolerance	- Pressure hPa : - - Rated speed rpm : 500
cm3/1000s. : 9.0	- rack travel mm : -2.20 - Tolerance mm : +- 0.10 -
RATED SPEED	- Rated speed rpm : 500
rack travel mm : -1.00 Rated speed rpm : 1118 Tolerance 1/min : + 8	Pressure hPa : 360 rack travel mm : -0.40 Tolerance mm : + 0.20

CO8

Pressure hPa rack travel mm Tolerance mm	:	200 -1.45 0.05	
START CUT-OUT			
Rated speed rpm Rated speed rpm	; > ; <	100 195	
Check speed 1/min Check	; >	80	
speed 1/min	: <	215	

# FUEL DELIVERY CHARACTERISTICS

Aneroid	pressure	
hPa		•

1000 Rated speed rpm : 1050

Del. quantity

cm3/1000 strokes : 149.0

Tolerance

cm3/1000 strokes : +-3.0 Check tolerance

6.0

cm3/1000s.

Aneroid pressure

500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 81.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000s. 4.0

### **BREAKAWAY**

Rack travel in mm : -1.00 Rated speed rpm : 1118 Tolerance 1/min

# STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity

170.0 cm3/1000 strokes :

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0 LOW IDLE

Rated speed rpm : 275

Del. quantity

cm3/1000 strokes : 21.0

Tolerance

cm3/1000 strokes : +-2.0

Check tolerance

cm3/1000s.5.0 : +-

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

End of test specification sheet

C09

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 05.05.95 : ISO 4113

Combination No.

: 0 402 046 829

Injection pump

Pump designation : PES6P120A320RS3284

EP type number

: 0 412 026 749

Governor

: RQV275...1050PA995 Governer design.

: -1

Governer no.

: 0 421 813 941

Cust. part No. : CCEP 5120A 66-177

Customer-spec. information

Customer

: RVI

Motor

: MIDRO6.20.45 B/3

Power KW : 195.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 2.0

Tolerance °C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar

: +- 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

C10

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-

Prestroke mm 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

: + - 0.50tolerance °NW

Start of delivery mark

1 Barrel no. :

BASIC SETTING

Rated speed rpm 700

Rack travel in mm : 10.70

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 157.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: +-4.0

	1		
Spreed Tolerance cm3/1000 strokes	: 5.0	control lever position degree tolerance degree	
Check tolerance cm3/1000s.	: 9.0	- RATED SPEED	
Rated speed rpm	: 275	rack travel mm Rated speed rpm Tolerance 1/min	: 1125
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes	: +- 0.10	rack travel mm Rated speed rpm Tolerance 1/min	: 1220 : +- 15
Tolerance cm3/1000 strokes Check tolerance cm3/1000S. Spreed	: +- 2.0 : +- 5.0	rack travel mm Tolerance mm Rated speed rpm	: +- 0.55
Tolerance cm3/1000 strokes Check tolerance	: 8.0	LOW IDLE	
cm3/1000s.  (B) SETTING OF INWITH GOVERNOR	‡	control lever position degree tolerance degree Testing:	
GUIDE SLEEVE POSIT	+	Rated speed rpm rack travel mm Tolerance mm	: -5.20 : +- 0.10
Rack travel in mm Tolerance mm		Rated speed rpm CRT mm max.	
FULL LOAD DELIVERY	Y AT FULL LOAD STOP	Rated speed rpm	: 390
Rated speed rpm Aneroid pressure	: 700	TORQUE CONTROL	
hPa Del. quantity cm3/1000 strokes	: 1000 : 157.0	Rated speed rpm Tolerance mm	
Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 4.0	ANEROID/ALTITUDE COMPENSATOR TEST	
Spreed Tolerance cm3/1000 strokes	: 5.0	SETTING	
Check tolerance cm3/1000s.	: 9.0	Rated speed rpm Pressure hPa	: 500 : 1000
	<del>_</del>	MEASUREMENT	
CONTROL LEVER	‡	Pressure hPa Rated speed rpm	: - : 500

rack travel mm Tolerance mm	: -1.35 : +- 0.15	
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 130 : -1.00 : +- 0.10	
Pressure hPa rack travel mm Tolerance mm	: 240 : -0.35 : +- 0.05	
START CUT-OUT		
Rated speed rpm Rated speed rpm	: > 100 : < 210	
Check speed 1/min Check	: > 80	
speed 1/min	: < 230	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 153.0	
BREAKAWAY		
Rack travel in mm Rated speed rpm Tolerance 1/min		

Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0

# LOW IDLE

Rated speed rpm : 275 Del. quantity 25.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +- 2.0Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

End of test specification sheet

STARTING FUEL DELIVERY

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 12.05.95 Test oil : ISO 4113

Combination No. : 0 402 046 836

Injection pump

Pump designation : PES6P120A320RS3303 EP type number : 0 412 026 755

Governor

Governer design. : RQV275...1050PA1038K

Governer no. : 0 421 815 313

Cust. part No. : CCEP-5129B 66-195

Customer-spec. information

Customer : RVI

Motor : MIDR 062045 J/3

Power KW : 169.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 11.05 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 157.0

Tolerance

7/4000

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

C13

		+ Tolerance mm : +- 0.25
Spreed		+
Tolerance		Rated speed rpm : 1530
cm3/1000 strokes	: 5.0	guide sleeve
Check tolerance		+ travel mm : 13.50 + Tolerance mm : +- 0.50
cm3/1000s.	: 9.0	Toterance min . +- 0.30
	. ,	
Rated speed rpm	: 275	GUIDE SLEEVE POSITION
		+ 1770
Rack travel in mm	-5 50	Rated speed rpm : 1330
Tolerance mm		Rack travel in mm : 9.90
Del. quantity	. 3,25	Tolerance mm : +- 2.00
cm3/1000 strokes	: 24.0	+
Tolerance		
cm3/1000 strokes Check tolerance	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s.	: +- 5.0	Rated speed rpm : 1050
Spreed		Aneroid pressure
Tolerance		hPa : -
cm3/1000 strokes	: 8.0	+ Del. quantity + cm3/1000 strokes : 157.0
Check tolerance cm3/1000s.	: 12.0	Tolerance
5.857 1 <b>555</b> 5 1		cm3/1000 strokes : +- 1.0
		Check tolerance
(B) SETTING OF IN	JECTION PUMP	cm3/1000s. : +- 4.0
WITH GOVERNOR		+ Spreed + Tolerance
		cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAV	EL .	Check tolerance
~	275	cm3/1000s. : 9.0
Rated speed rpm guide sleeve	: 275	$\dot{\mathbb{T}}$
travel mm	: 1.34	
Tolerance mm	: + 0.25	CONTROL LEVER
		+
Rated speed rpm guide sleeve	: 1140	control lever position degree : 56.0
travel mm	: 9.03	tolerance degree : +- 4.0
Tolerance mm	: +- 0.25	+
		control lever
Rated speed rpm	: 740	position degree : 287.0
guide sleeve travel mm	: 6.16	tolerance degree : +- 4.0
Tolerance mm	: +- 0.25	RATED SPEED
		+
Rated speed rpm	: 336	rack travel mm : -1.00
guide sleeve travel mm	: 2.38	Rated speed rpm : 1110 Tolerance 1/min : +- 5
Tolerance mm		Totalice Milli . 1- 3
		rack travel mm : -7.00
Rated speed rpm	: 386	rack travel mm : -7.00 Rated speed rpm : 1240
guide sleeve	. 7 12	Tolerance 1/min : +- 15
travel mm Tolerance mm	: 3.12 : + 0.25	rack travel mm : -10.55
TOTAL GITCA UNIT		Tolerance mm : +- 0.55
Rated speed rpm	: 440	Rated speed rpm : 1350
guide sleeve	7.04	
travel mm	: 3.94	<del> </del>

# LOW IDLE

control lever 242.0 position degree : tolerance degree : +- 4.0

control lever

position degree 12.0 tolerance degree : + 4.0

Testing:

275 Rated speed rpm -5.50 rack travel mm Tolerance mm : + - 0.20

200 Rated speed rpm

: < -4.70 CRT mm max.

330 Rated speed rpm :

TORQUE CONTROL

1050 Rated speed rpm :

700 Rated speed rpm : -0.80rack travel mm : + - 0.10Tolerance mm

### START CUT-OUT

Rated speed rpm : > 175 235 Rated speed rpm : <

Check

speed 1/min ; > 155 Check 255 speed 1/min : <

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa 700 Rated speed rpm Del. quantity

cm3/1000 strokes : 137.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0

### BREAKAWAY

Rack travel in mm : -1.00 Rated speed rpm : 1110 Tolerance 1/min : +-

# STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 170.0 Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

## LOW IDLE

275 Rated speed rpm : Del. quantity cm3/1000 strokes : 24.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +--5.0 Spreed Tolerance 8.0 cm3/1000 strokes : Check tolerance 12.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 01.08.95 : ISO 4113

Combination No. : 0 402 744 801

Injection pump

Pump designation : PES4P120A320RS7380

EP type number : 0 412 724 802

Governor

Governer design. : RQV275...1300PA1232K

Governer no. : 0 421 815 469

Cust. part No. : CCEP 5149 66-237

Customer-spec. information

Customer : RVI

Motor : MIDR 04-02-26 B4

Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance \*C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

95 min. L/h Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 5.00 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 11.00 Tolerance mm : +- 0.50

Firing order : 1- 3- 4- 2

: 0-90-180-270 Phasina

Tolerance : +- 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm: 12.70 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 236.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance	+	guide sleeve
cm3/1000s.	: + 4.0	travel mm : 4.01
11107 (0000)	1	Tolerance mm : +- 0.25
Spreed		10(0) 4/100 /////
Tolerance	T	Rated speed rpm : 1650
cm3/1000 strokes	; 3.0 †	guide sleeve
		travel mm : 13.50
Check tolerance	+	Tolerance mm : +- 0.50
cm3/1000s.	: 9.0	
	+	
Rated speed rpm	: 325	GUIDE SLEEVE POSITION
	1	
	1	Rated speed rpm : 1500
Rack travel in mm	-6.60	(1000 open (piii ) 1000
Tolerance mm		Rack travel in mm : 11.10
	. ' 0.10	
Del. quantity		Tolerance mm : +- 1.50
cm3/1000 strokes	: 40.0	
Tolerance	†	
cm3/1000 strokes	: +- 2.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+	
cm3/1000s.	: +- 6.0	Rated speed rpm : 1200
Spreed	1	Aneroid pressure
Tolerance	1	hPa : 1200
cm3/1000 strokes	: 8.0	Del. quantity
Check tolerance	. 5.5	cm3/1000 strokes : 236.0
cm3/1000s.	: 12.0	Tolerance
CIIIS7 10003.	: 12.0	
	†	
<b></b>	<b>†</b>	Check tolerance
(B) SETTING OF IN	JECTION PUMP +	cm3/1000s. : +- 4.0
WITH GOVERNOR	+	Spreed
WITH GOVERNOR	‡	Spreed Tolerance
WITH GOVERNOR	<u> </u>	·
	# # # # # # # # # # # # # # # # # # #	Tolerance cm3/1000 strokes : 5.0
WITH GOVERNOR  GUIDE SLEEVE TRAV	EL +	Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAV	+	Tolerance cm3/1000 strokes : 5.0
GUIDE SLEEVE TRAV	+	Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAV	: 325	Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAV	: 325 : 1.57	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0
GUIDE SLEEVE TRAV	: 325	Tolerance cm3/1000 strokes : 5.0 Check tolerance
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 325 : 1.57 : + 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 325 : 1.57 : + 0.25 : 1381	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0
GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: 325 : 1.57 : + 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve	: 325 : 1.57 : + 0.25 : 1381	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0
GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve travel mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0
GUIDE SLEEVE TRAVI Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm Rated speed rpm	: 325 : 1.57 : + 0.25 : 1381 : 10.37	Tolerance cm3/1000 strokes: 5.0 Check tolerance cm3/1000S.: 9.0  CONTROL LEVER  control lever position degree: 302.0 tolerance degree: +- 4.0  RATED SPEED
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000S. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60
Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465
GUIDE SLEEVE TRAV	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39 : + 0.25	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15  rack travel mm : -1.20
Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15  rack travel mm : -1.20 Tolerance mm : -12.20 Tolerance mm : -12.20 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39 : + 0.25 : 440	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15  rack travel mm : -1.20
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39 : + 0.25 : 440 : 2.90	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15  rack travel mm : -1.20 Tolerance mm : -12.20 Tolerance mm : -12.20 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39 : + 0.25 : 440	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15  rack travel mm : -1.20 Tolerance mm : -12.20 Tolerance mm : -12.20 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm	: 325 : 1.57 : + 0.25 : 1381 : 10.37 : + 0.25 : 940 : 6.87 : + 0.25 : 390 : 2.39 : + 0.25 : 440 : 2.90	Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  CONTROL LEVER  control lever position degree : 302.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  rack travel mm : -8.70 Rated speed rpm : 1465 Tolerance 1/min : +- 15  rack travel mm : -1.20 Tolerance mm : -12.20 Tolerance mm : -12.20 Tolerance mm : +- 0.50

control lever position degree : 253.0			+ Tolerance mm	: +- 0.05
Dosition degree   253.0   Tolerance degree   + 4.0   Rated speed rpm   > 130   Rated speed rpm   > 1275   Rated speed rpm   > 1275   Rated speed rpm   > 1200   Rated speed rpm   > 1300   Rated speed rpm   > 1350   Rated speed rpm   > 1	control lever			
Rated speed rpm   > 130	position degree		START CUT-OUT	
Rated speed rpm : 325 rack travel mm : -6.60 Tolerance mm : + 0.10 Rated speed rpm : 200  CRT mm min. : < -4.60 Rated speed rpm : 390  TORQUE CONTROL Rated speed rpm : 1200 Rated speed rpm : 1200 Rated speed rpm : 1200 Rated speed rpm : 700 rack dravel mm : -1.15 Tolerance mm : + 0.10  Rated speed rpm : 1300 Rated speed rpm : 700 rack travel mm : -1.15 Tolerance mm : + 0.10  Rated speed rpm : 1300 Rated speed rpm : 350 Rated speed rpm : -2.90 Tolerance mm : + 0.20  ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 1200 Pressure hPa : 1200 Rated speed rpm : 500 Rated speed rpm : 1352 Rated speed rpm : 1200 Rated speed rpm : 1352 Rated speed rpm : 1200 Rated speed rpm : 1352 Rated speed rpm : 1352 Rated speed rpm : 100	_			
Speed 1/min   : > 110	Testing:		+ Rated speed rp	om : < 275
Tolerance mm				. 440
Speed 1/min				: > 110
Rated speed rpm : 200	TOCETATICE THAT	0.10		: < 285
Rated speed rpm : 390	Rated speed rpm	: 200	İ	
Pa	CRT mm min.	: < -4.60	FUEL DELIVERY	CHARACTERISTICS
Rated speed rpm : 700   Del. quantity   Cm3/1000 strokes : 237.0   Tolerance   Cm3/1000 strokes : 237.0   Tolerance   Cm3/1000 strokes : 4- 3.0   Check tolerance   Cm3/1000 strokes : 4- 3.0   Check tolerance   Cm3/1000 strokes : 4- 3.0   Check tolerance   Cm3/1000 strokes : 4- 6.0   Check tolerance   Cm3/1000 strokes : 4- 6.0   Check tolerance   Cm3/1000 strokes : 4- 6.0   Check tolerance   Cm3/1000 strokes : 225.0   Tolerance   Cm3/1000 strokes : 225.0   Tolerance   Cm3/1000 strokes : 4- 6.0   Check tolerance   Cm3/1000	Rated speed rpm	: 390	Aneroid pressu	
Del. quantity cm3/1000 strokes : 237.0				
Rated speed rpm : 1200	TODOUE CONTROL			
Rated speed rpm : 1200	TORQUE CONTROL			
Rated speed rpm : 700 rack travel mm : -1.15 Tolerance mm : + 0.10  Rated speed rpm : 1300 Rated speed rpm : 1300 rack travel mm : -0.50 Tolerance mm : + 0.25  Rated speed rpm : 350 Rated speed rpm : 350 Rated speed rpm : -2.90 Tolerance mm : + 0.20  Rated speed rpm : -2.90 Tolerance mm : -0.20  ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 1200 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : + 6.0 Check tolerance cm3/1000s. : + - 9.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : + - 1.0 Check tolerance cm3/1000s. : + - 4.0  Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : 155.0 Tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 1.0 Check tolerance cm3/1000s. rokes : + - 5.0 Tolerance mm :	Rated speed rom	1200	· · · · · · · · · · · · · · · · · · ·	.es . 237.U
Rated speed rpm : 700 rack travel mm : -1.15 Tolerance mm : + 0.10  Rated speed rpm : 1300 rack travel mm : -0.50 Tolerance mm : + 0.25  Rated speed rpm : 350 Rated speed rpm : 350 rack travel mm : -2.90 Tolerance mm : + 0.20  Aneroid pressure hPa	racea opeca rpm	. 1200		es : +- 3.0
rack travel mm : -1.15 Tolerance mm : + 0.10  Rated speed rpm : 1300	Rated speed rpm	: 700		
Rated speed rpm : 1300 rack travel mm : -0.50 Tolerance mm : +0.25  Rated speed rpm : 350 rack travel mm : -2.90 rack travel mm : -2.90 Tolerance mm : +0.20  Rated speed rpm : 350 rack travel mm : -2.90 Tolerance mm : +0.20  ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 1200 Pressure hPa : 1200  MEASUREMENT  Pressure hPa : -0.20  Rated speed rpm : 1200 Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : +0.20  Rated speed rpm : 1200  Pressure hPa : -0.20  Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : +0.20  Rated speed rpm : 1200  Rated speed rpm : 1200  Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : +0.20  Rated speed rpm : 1200  Rated speed rpm : 1200  Rated speed rpm : 1200  Rated speed rpm : 1352 Tolerance 1/min : +- 5  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : +0.20  Rated speed rpm : 100  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100		: -1.15	+ cm3/1000s.	: +- 6.0
Rated speed rpm : 1300 rack travel mm : -0.50 Tolerance mm : + 0.25  Rated speed rpm : 350 Rated speed rpm : 350 Tolerance mm : + 0.20  Rated speed rpm : -2.90 Tolerance mm : + 0.20  ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 1200 Rated speed rpm : 500 Del. quantity cm3/1000 strokes : + 6.0 Check tolerance cm3/1000s. : + 9.0  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1200  Rack travel in mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : + 5  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : + 0.20  Pressure hPa : 520  Rated speed rpm : 100	Tolerance mm	: +- 0.10	+	
Rated speed rpm : 1300   Del. quantity   cm3/1000 strokes : 225.0   Tolerance mm : + 0.20   Tolerance mm/3/1000 strokes : + 6.0   Check tolerance cm3/1000s. : + 9.0   Aneroid pressure   hPa : - Rated speed rpm : 500   Del. quantity cm3/1000 strokes : 155.0   Tolerance mm/3/1000 strokes : 155.0   Tolerance mm/3/1000 strokes : + 1.0   Check tolerance cm3/1000s. : + 4.0   ERAKAWAY	Data dama ad man	. 1700		
Tolerance mm			The second secon	
Rated speed rpm : 350  Rated speed rpm : 350  Tolerance rack travel mm : -2.90  Tolerance mm : + 0.20   ANEROID/ALTITUDE COMPENSATOR TEST  Rated speed rpm : 1200  Pressure hPa : 1200  MEASUREMENT  Pressure hPa : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1200  Rated speed rpm : 500  Rated speed rpm : 1200  MEASUREMENT  Pressure hPa : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1200  Rated speed rpm : 1200  Rated speed rpm : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1352 Tolerance 1/min : + 5  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100				
Tack travel mm   1 -2.90   10.20   1	TOCCT WITH	0.23		
Tolerance mm : + 0.20  ANEROID/ALTITUDE COMPENSATOR TEST  Aneroid pressure  hPa : - Rated speed rpm : 500  Del. quantity cm3/1000 strokes : 155.0  Tolerance  Rated speed rpm : 1200  Pressure hPa : 1200  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500  Rated speed rpm : 500  Rated speed rpm : 500  Rated speed rpm : 500  Rated speed rpm : 500  Rated speed rpm : 500  Rated speed rpm : 500  Rated speed rpm : 1200  Rated speed rpm : 1352  Tolerance mm : -1.60  Rated speed rpm : 1352  Tolerance 1/min : + 5  Pressure hPa : 320  Rated speed rpm : 1200  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100	Rated speed rpm			
ANEROID/ALTITUDE COMPENSATOR TEST  Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 500 Rated speed rpm : 1200  Rated speed rpm : 1200  Rated speed rpm : 1352 Tolerance mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  Pressure hPa : 320 Rated speed rpm : -3.60 Tolerance mm : -0.20  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100				
ANEROID/ALTITUDE COMPENSATOR TEST  Aneroid pressure	Tolerance mm	: +- 0.20		
COMPENSATOR TEST				; +- 9.0
Rated speed rpm : 500  Del. quantity cm3/1000 strokes : 155.0  Tolerance cm3/1000 strokes : +- 1.0  Check tolerance cm3/1000s. : +- 4.0  MEASUREMENT  Pressure hPa : Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : +- 0.20  Rated speed rpm : 1200  Rack travel in mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : +- 5  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : +- 0.20  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100	ANEROID/ALTITUDE		+ Aneroid pressu	re
Del. quantity cm3/1000 strokes : 155.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0  MEASUREMENT  Pressure hPa : Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : +- 0.20  Rated speed rpm : 1200  Rated speed rpm : 1352 Tolerance 1/min : +- 5  Pressure hPa : -3.60 Tolerance mm : +- 0.20  Rated speed rpm : 1000  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100	COMPENSATOR TEST			: -
SETTING   Cm3/1000 strokes : 155.0   Tolerance   Cm3/1000 strokes : 1.00   Tolerance   Cm3/1000 strokes : +- 1.0   Check tolerance   Cm3/1000s. : +- 4.0   Check tolerance   Cm3/1000s.   C				
Tolerance	SETTING			
Rated speed rpm : 1200 Pressure hPa : 1200  MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : +- 0.20  Rated speed rpm : 1200  Rack travel in mm : -1.60 Rated speed rpm : 1352  Rated speed rpm : 1200  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : +- 0.20  Rated speed rpm : 100  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100	25117149		•	. 199.0
## Pressure hPa : 1200	Rated speed rpm	: 1200		es : +- 1.0
MEASUREMENT  Pressure hPa : - Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1200  Rated speed rpm : 1352 Tolerance 1/min : + 5  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : + 0.20  STARTING FUEL DELIVERY  Pressure hPa : 520  Rated speed rpm : 100	Pressure hPa	: 1200		
Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1200  Rated speed rpm : 1352 Tolerance 1/min : + 5  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : + 0.20  STARTING FUEL DELIVERY  Pressure hPa : 520  Rack travel in mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : + 5  Rated speed rpm : 100	MEASUREMENT		+ cm3/1000s. +	: +- 4.0
Rated speed rpm : 500 rack travel mm : -4.20 Tolerance mm : + 0.20  Rated speed rpm : 1200  Rated speed rpm : 1352 Tolerance 1/min : + 5  Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : + 0.20  STARTING FUEL DELIVERY  Pressure hPa : 520  Rack travel in mm : -1.60 Rated speed rpm : 1352 Tolerance 1/min : + 5  Rated speed rpm : 100	Pressure hPa		BREAKAWAY	
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Rated speed rpm : 1352  Rated speed rpm : 1352  Tolerance 1/min : + 5  Pressure hPa : 320  rack travel mm : -3.60  Tolerance mm : + 0.20  Pressure hPa : 520  Rated speed rpm : 1352  Tolerance 1/min : + 5  Rated speed rpm : 100			+	
Rated speed rpm : 1200	Tolerance mm	: +- 0.20		
Pressure hPa : 320 rack travel mm : -3.60 Tolerance mm : + 0.20  Pressure hPa : 520  Rated speed rpm : 100		4000		
rack travel mm : -3.60 Tolerance mm : + 0.20  Pressure hPa : 520  Rated speed rpm : 100	kated speed rpm	: 1200	+ Tolerance 1/mil	n : + 5
rack travel mm : -3.60 Tolerance mm : + 0.20  Pressure hPa : 520  Rated speed rpm : 100			1	
Pressure hPa : 520 Rated speed rpm : 100	rack travel mm		+	
( )	Tolerance mm	: +- 0.20	+ STARTING FUEL	DELIVERY
( )	December 600	. 520	Dated enced no	m · 100
THE STATE WITH A CONTRACT TO THE STATE OF TH			T Rated speed (b)	. 100
	THEN STRACE HITH		ı	

Del. quantity cm3/1000 strokes	;		100.0
Tolerance cm3/1000 strokes	:	+-	15.0

Check tolerance cm3/1000s. : ← 19.0

## LOW IDLE

Rated speed rpm Del. quantity	:	325	
cm3/1000 strokes	:	40.0	
Tolerance cm3/1000 strokes	: +	- 2.0	
Check tolerance cm3/1000s.	: +	- 6.0	
Spreed Tolerance			
cm3/1000 strokes	:	8.0	
Check tolerance cm3/1000s.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.05.95 Test oil : ISO 4113

Combination No. : 0 402 746 924

Injection pump

Pump designation : PES6P110A320RS7243

EP type number : 0 412 716 806

Governor

Governer design. : RQV275...1250PA942

: -2K

Governer no. : 0 421 815 288

Cust. part No. : CCEP51248

Customer-spec. information

Customer : RVI

Motor : MIDRO6-06-26 L/2

Power KW : 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C :  $\leftarrow$  2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.90
Tolerance mm : +- 0.05
Check

tolerance mm : +- 0.10

Rack travel in mm : 13.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.05
Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 141.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 3.5

	†	Rated speed rpm : 1450
Spreed Tolerance cm3/1000 strokes :	4.0	Rack travel in mm : 10.10 Tolerance mm : +- 1.30
Check tolerance cm3/1000s. :	7.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm :	275	Rated speed rpm : 1250 Aneroid pressure hPa : 1000
Rack travel in mm : Tolerance mm : Del. quantity cm3/1000 strokes :	+ 0.10	Del. quantity cm3/1000 strokes : 141.0 Tolerance cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes :	+ 2.0	Check tolerance cm3/1000s. : +- 3.5
Spreed Tolerance	+- 5.0	Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance
cm3/1000 strokes : Check tolerance cm3/1000s. :	7.5	cm3/1000s. : 7.5
(B) SETTING OF INJE WITH GOVERNOR	CTION PUMP	control lever position degree : 276.0
GUIDE SLEEVE TRAVEL		tolerance degree : +- 4.0  RATED SPEED
guide sleeve travel mm :	9.80 +- 0.10	rack travel mm : -1.00 Rated speed rpm : 1325 Tolerance 1/min : +- 5
guide sleeve travel mm :	7.20 +- 0.20	rack travel mm : -9.00 Rated speed rpm : 1475 Tolerance 1/min : +- 15
guide sleeve travel mm :	275 1.00 +- 0.10	rack travel mm : -12.55 Tolerance mm : +- 0.55 Rated speed rpm : 1600
Rated speed rpm : guide sleeve	600	LOW IDLE
travel mm : Tolerance mm :	+ 0.20	control lever position degree : 222.0
Rated speed rpm : guide sleeve travel mm :	13.50	tolerance degree : +- 4.0  Testing:
	+ 0.50	Rated speed rpm : 275 rack travel mm : -7.60
GUIDE SLEEVE POSITION	ON ‡	Tolerance mm : +- 0.10

Rated speed rpm	: 200	+
CRT am min.	: < -7.00	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 415	Aneroid pressure hPa : 1000
TORQUE CONTROL		Rated speed rpm : 650 Del. quantity
Rated speed rpm	: 1250	+ cm3/1000 strokes : 126.5 + Tolerance + cm3/1000 strokes : +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 650 : -1.00 : +- 0.10	Check tolerance cm3/1000s. : +- 5.0
		Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	: -6.00	Rated speed rpm : 550 Del. quantity
Rated speed rpm	: 300	+ cm3/1000 strokes : 40.0 + Tolerance
rack travel mm Tolerance mm	: +- 0.20	- cm3/1000 strokes : +- 5.0 - Check tolerance - cm3/1000S. : +- 8.0
ANEROID/ALTITUDE		Spreed Tolerance
COMPENSATOR TEST		cm3/1000 strokes : 10.0
SETTING		Aneroid pressure hPa : - Rated speed rpm : 500
Rated speed rpm Pressure hPa		Del. quantity cm3/1000 strokes : 80.0
MEASUREMENT		Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
Pressure hPa Rated speed rpm rack travel mm	: 1250	cm3/1000s. : + 3.5 Spreed Tolerance
Tolerance mm	: +- 0.20	cm3/1000 strokes : 10.0 Check tolerance
Rated speed rpm		cm3/1000s. : 14.0
Pressure hPa rack travel mm Tolerance mm	: 180 : -2.25 : +- 0.15	BREAKAWAY
Pressure hPa rack travel mm Tolerance mm	: 280 : -1.75 : +- 0.05	Rack travel in mm: -1.00 Rated speed rpm: 1325 Tolerance 1/min: +- 5
START CUT-OUT		STARTING FUEL DELIVERY
Rated speed rpm Rated speed rpm	: > 175 : < 225	Rated speed rpm : 100 Del. quantity
Check speed 1/min	: > 155	cm3/1000 strokes : 115.0 Tolerance
Check speed 1/min	: < 245	+ cm3/1000 strokes : +- 15.0 +

Check tolerance		
cm3/1000s.	; +-	19.0

$\Delta$	TDI	~

Rated speed rpm	:	275	
Del. quantity cm3/1000 strokes Tolerance	:	26.0	
cm3/1000 strokes Check tolerance	: +-	2.0	
cm3/1000s. Spreed	: +-	5.0	
Tolerance cm3/1000 strokes	:	4.5	
Check tolerance cm3/1000s.	:	7.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 10.05.95 : ISO 4113

Combination No. : 0 402 746 928

Injection pump

Pump designation : PES6P110A320RS7243

EP type number : 0 412 716 806

Governor

Governer design. : RQV275...1175PA942

: -3K

Governer no.

: 0 421 815 294

Cust. part No. : CCEP5125B

Customer-spec. information

Customer

: RVI

: MIDRO6-06-26 M/2 Motor

Power KW

: 132.5

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40

: +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar

Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

(A) INJECTION PUMP SETTING VALUES

2.0 600

Set equal delivery quant.

per values \_\_\_\_\_

x inside diameter :

x length mm :

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

4,90 Prestroke mm Tolerance mm : +- 0.05

Check

REMARKS

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 13.50 Tolerance mm : +- 0.05

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm: 13.45

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 153.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.5

Spreed	
Tolerance	
cm3/1000 strokes	: 4.0
Check tolerance	
cm3/1000s.	: 7.5
Rated speed rpm	: 275
Rack travel in m	m: -8.30
	ma: −8.30 :+- 0.10
Tolerance mm	: 0.10
Del. quantity	. 25.0
cm3/1000 strokes	: 25.0
Tolerance	
cm3/1000 strokes	: +- 2.0
Check tolerance	
cm3/1000s.	: ← 5.0
Spreed	
Tolerance	. •
cm3/1000 strokes	: 4.5
Check tolerance	
cm3/1000s.	: 7.5
(B) SETTING OF IN	WIECTTON DUMP
WITH GOVERNOR	ATECITON FOME
WITH GOVERNOR	
GUIDE SLEEVE TRAN	/EL
Rated speed rpm	: 1250
guide steeve	
travel mm	: 9.20
Tolerance mm	: <b>←</b> 0.10
Rated speed rpm	: 1000
guide sleeve	
travel mm	: 7.20
Tolerance mm	: +- 0.20
Dahad awasal awa	. 275
Rated speed rpm	: 275
guide sleeve travel mm	: 1.00
	: + 0.10
Tolerance mm	: - 0.10
Rated speed rpm	: 600
guide sleeve	
travel mm	: 4.40
Tolerance mm	: +- 0.20
· · · · · · · · · · · · · · · · · · ·	
Rated speed rpm	: 1600
guide steeve	
travel mm	: 13.50
Tolerance mm	: +- 0.50
TO CC. GITCC TIME	
TOCCT GITCC TIME	
Total area min	
GUIDE SLEEVE POSI	

Rack travel in mm Tolerance mm	: 10.10 : +- 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 1175
hPa Del. quantity	: 1000
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance	
cm3/1000s. Spreed	: +- 3.5
Tolerance cm3/1000 strokes	: 4.0
Check tolerance cm3/1000s.	: 7.5
CONTROL LEVER	
control lever	
position degree tolerance degree	: 294.0 : + 4.0
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: −1.00 : 1260 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: −9.45 : 1440 : ← 15
rack travel mm Tolerance mm Rated speed rpm	: −12.95 : ← 0.55 : 1550
rack travel mm	: 4.00
LOW IDLE	
control lever position degree tolerance degree	: 242.0 : + 4.0
Testing:	
Rated speed rpm rack travel mm	: 275 : -8.30

Rated speed rpm : 1450

: < 245  CHARACTERISTICS  re
re : 1000 m : 700 es : 151.0 es : +- 2.0 e : +- 5.0
: 1000 m : 700 es : 151.0 es : +- 2.0 e : +- 5.0
m : 700 es : 151.0 es : +- 2.0 e : +- 5.0
es : 151.0 es : +- 2.0 e : +- 5.0
es : +- 2.0 e : +- 5.0
e : +- 5.0
e : +- 5.0
: +- 5.0
re · _
re -
700
n: 700
es : 40.0
es : +- 5.0
e : +- 8.0
; <del></del> 0.0
es : 10.0
-5 · IU.U
re
• -
n : 500
es : 80.0
es : +- 1.0
9
: +- 3.5
es : 10.0
•
: 14.0
mm : -1.00
1260
1 : +- 5
ELIVERY
400
n : 100
es : 115.0
• • • •

Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0

## LOW IDLE

Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 4.5 Check tolerance cm3/1000s. 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12.05.95 : ISO 4113

Combination No. : 0 402 746 952

Injection pump

Pump designation : PES6P120A320RS7294

EP type number : 0 412 726 895

Governor

Governer design. : RQV275...1000PA1001

: -2

Governer no. : 0 421 813 989

Cust. part No. : CCEP-5136 66-214

Customer-spec. information

Customer : RVI

Motor

: MIDR 063540 N/3

Power KW : 283.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C : **←** 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

: 4.55 : +- 0.05 Prestroke mm Tolerance mm

Check

: **←** 0.10 tolerance mm

Rack travel in mm: 19.50

Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance \*NW : **←** 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: -7.25

Tolerance mm : +- 0.30

Del. quantity

cm3/1000 strokes : 74.0

Tolerance		+ Rated speed rpm : 300
cm3/1000 strokes	: +- 1.0	guide sleeve
		travel mm : 1.66
Check tolerance		+ Tolerance mm : +- 0.10
cm3/1000s.	: +- 4.0	+
		+ Rated speed rpm : 1086
Spreed		guide sleeve
		+ travel mm : 8.46
Tolerance		Tolerance mm : +- 0.10
cm3/1000 strokes	: 4.0	+
		+ Rated speed rpm : 773
Check tolerance		+ guide sleeve
cm3/1000S.	; 7.0	† travel mm : 6.09
		† Tolerance mm : +- 0.20
Rated speed rpm	: 600	+
		Rated speed rpm : 343
		guide sleeve
Rack travel in mm	ı: 13.35	+ travel mm : 2.33
Tolerance mm	: +- 0.05	† Tolerance mm : +- 0.20
		<del>_</del>
Del. quantity		Rated speed rpm : 393
cm3/1000 strokes	: 290.0	+ guide sleeve
		+ travel mm : 2.99
Tolerance		+ Tolerance mm : +- 0.20
cm3/1000 strokes	: +- 2.0	+
		Rated speed rpm : 490
Check tolerance		+ guide sleeve
cm3/1000s.	: +- 5.0	travel mm : 3.81
		+ Tolerance mm : +- 0.20
Spreed		
Tolerance		∤ Rated speed rpm : 1370
cm3/1000 strokes	: 8.0	+ guide sleeve
		+ travel mm : 11.50
Check tolerance		+ Tolerance mm : +- 0.50
cm3/1000s.	: 12.0	
	, , , , ,	
Rated speed rpm	: 300	→ GUIDE SLEEVE POSITION
		1
		Rated speed rpm : 1200
Rack travel in mm	·: -8.20	+
Tolerance mm	: + 0.10	Rack travel in mm: 12.20
Del. quantity		+ Tolerance mm : + 1.30
cm3/1000 strokes	: 31.0	+
Tolerance		+
cm3/1000 strokes	: <del>+-</del> 2.5	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		+
cm3/1000s.	: +- 5.0	+ Rated speed rpm : 600
Spreed		Aneroid pressure
Tolerance		+ hPa : 1000
cm3/1000 strokes	: 6.0	Del. quantity
Check tolerance		+ cm3/1000 strokes : 290.0
cm3/1000s.	: 10.0	Tolerance
	-	- cm3/1000 strokes : +- 2.0
		- Check tolerance
(B) SETTING OF IN	JECTION PUMP	+  cm3/1000s. : + 5.0
WITH GOVERNOR	<del></del>	Spreed
		Tolerance
		- + cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAVE	EL	+ Check tolerance
vesets innt		+ cm3/1000s. : 12.0
		1 1000

<del></del>		ANEROID/ALTITUDE
CONTROL LEVER		COMPENSATOR TEST
control lever position degree tolerance degree	: 301.0 : +- 4.0	SETTING
RATED SPEED		Rated speed rpm : 500 Pressure hPa : 1000
rack travel mm Rated speed rpm Tolerance 1/min		MEASUREMENT Pressure hPa : -
rack travel mm Rated speed rpm Tolerance 1/min	: 1205	Rated speed rpm : 500 rack travel mm : -3.80 Tolerance mm : +- 0.20
rack travel mm	: -12.85	+ Rated speed rpm : 500
Tolerance mm Rated speed rpm	: +- 0.55 : 1350	Pressure hPa : 240 rack travel mm : -2.60 Tolerance mm : +- 0.20
LOW IDLE		Pressure hPa : 480 - rack travel mm : -0.75 - Tolerance mm : +- 0.05
control lever position degree tolerance degree		START CUT-OUT
Testing:		+ Rated speed rpm : > 100 + Rated speed rpm : < 195
Rated speed rpm rack travel mm Tolerance mm	: -8.20	Check
Rated speed rpm	: 200	1
CRT mm max.	: < -6.80	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 365	Aneroid pressure hPa : 1000 Rated speed rpm : 1000
TORQUE CONTROL		+ Del. quantity + cm3/1000 strokes : 270.0
Rated speed rpm	: 600	Tolerance + cm3/1000 strokes : +- 4.0
Rated speed rpm Tolerance mm	: 1000 : + 0.10	Check tolerance cm3/1000s. : +- 7.0
Rated speed rpm rack travel mm Tolerance mm	: 600 : -4.50 : +- 0.10	Aneroid pressure hPa : 1000 Rated speed rpm : 600 Del. quantity cm3/1000 strokes : 159.0
		cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 5.0
		<b>_</b>

Check tolerance cm3/1000s. 8.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0 Aneroid pressure hPa Rated speed rpm 500 Del. quantity cm3/1000 strokes : 167.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 **BREAKAWAY** -1.00 Rack travel in mm : Rated speed rpm : 1070 Tolerance 1/min : +-STARTING FUEL DELIVERY Del. quantity cm3/1000 strokes : 160.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s.: +- 14.0 LOW IDLE Rated speed rpm 300 Del. quantity cm3/1000 strokes : 31.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance 10.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.08.95 Test oil : ISO 4113

Combination No. : 0 402 744 804

Injection pump

Pump designation : PES4P120A320RS7402

EP type number : 0 412 724 804

Governor

Governer design. : RQV275...1300PA1257K

Governer no. : 0 421 815 494

Cust. part No. : CCEP 5154 66-238

Customer-spec. information

Customer : RVI

Motor : MIDR 04-02-26 A4

Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.20
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00

Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 14.10 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 245.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed

Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 13.10
Check tolerance	+ Tolerance mm : +- 1.30
cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 325	+
	Rated speed rpm : 1200 Aneroid pressure
Rack travel in mm : -8.80 Tolerance mm : +- 0.10	+ hPa : 1200 - Del. quantity
Del. quantity	+ cm3/1000 strokes : 245.0
cm3/1000 strokes : 28.0 - Tolerance	+ Tolerance + cm3/1000 strokes : +- 1.0
cm3/1000 strokes : +- 2.0	Check tolerance
Check tolerance - cm3/1000s. : +- 6.0	+ cm3/1000s. : +- 4.0 + Spreed
Spreed	Tolerance cm3/1000 strokes : 5.0
Tolerance - cm3/1000 strokes : 8.0 -	+ Check tolerance
Check tolerance cm3/1000s. : 12.0	- cm3/1000s. : 9.0
	+
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	+ - control lever
	position degree : 300.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
Rated speed rpm : 325	T RATED SPEED
guide sleeve -	+
guide sleeve travel mm : 1.52	rack travel mm : -1.00
guide sleeve -	rack travel mm : -1.00 Rated speed rpm : 1365
guide sleeve travel mm : 1.52 - Tolerance mm : + 0.20 - Rated speed rpm : 1377 -	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5
guide sleeve travel mm : 1.52 - Tolerance mm : + 0.20 - Rated speed rpm : 1377 - guide sleeve -	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5 rack travel mm : -10.10
guide sleeve travel mm : 1.52 - Tolerance mm : + 0.20 - Rated speed rpm : 1377 -	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5 rack travel mm : -10.10 Rated speed rpm : 1495
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550  LOW IDLE
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve travel mm : 3.92	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve travel mm : 3.92 Tolerance mm : + 0.25  Rated speed rpm : 3.92 Tolerance mm : + 0.25	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550  LOW IDLE  control lever
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve travel mm : 3.92 Tolerance mm : + 0.25	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550  LOW IDLE  control lever position degree : 252.0
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve travel mm : 3.92 Tolerance mm : + 0.25  Rated speed rpm : 3.92 Tolerance mm : 1650 guide sleeve travel mm : 13.50	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550  LOW IDLE  control lever position degree : 252.0 tolerance degree : +- 4.0  Testing:
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve travel mm : 3.92 Tolerance mm : + 0.25  Rated speed rpm : 3.92 Tolerance mm : 1650 guide sleeve travel mm : 13.50	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550  LOW IDLE  control lever position degree : 252.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 325 rack travel mm : -8.80
guide sleeve travel mm : 1.52 Tolerance mm : + 0.20  Rated speed rpm : 1377 guide sleeve travel mm : 10.32 Tolerance mm : + 0.15  Rated speed rpm : 938 guide sleeve travel mm : 6.86 Tolerance mm : + 0.25  Rated speed rpm : 550 guide sleeve travel mm : 3.92 Tolerance mm : + 0.25  Rated speed rpm : 1650 guide sleeve travel mm : 13.50 Tolerance mm : + 0.50	rack travel mm : -1.00 Rated speed rpm : 1365 Tolerance 1/min : +- 5  rack travel mm : -10.10 Rated speed rpm : 1495 Tolerance 1/min : +- 15  rack travel mm : -14.05 Tolerance mm : +- 0.50 Rated speed rpm : 1550  LOW IDLE  control lever position degree : 252.0 tolerance degree : +- 4.0  Testing: Rated speed rpm : 325

CRT mm min. :> 6	<b>5</b> /.	
CRT mm min. :> 6	.54	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 390	0 ↓	TOLL OCCUPANT OF THE PROPERTY
	+	Aneroid pressure
	+	hPa : 1200
TORQUE CONTROL	†	Rated speed rpm : 850
Rated speed rpm : 1200	n I	Del. quantity cm3/1000 strokes : 235.0
Nated Speed (pii: 1200	1	Tolerance
Rated speed rpm : 850 rack travel mm : -1.	o 🗜	cm3/1000 strokes : +- 3.0
		Check tolerance
Tolerance mm : +- 0.	.10 +	cm3/1000s. : +- 6.0
Rated speed rpm : 1300	n I	Aneroid pressure
rack travel mm : -0.		hPa : 1200
Tolerance mm : + 0.		Rated speed rpm : 1300
	+	Del. quantity
Rated speed rpm : 700	7_ +	cm3/1000 strokes : 235.0
rack travel mm : -6. Tolerance mm : + 0.		Tolerance
Tolerance mm : +- 0.	.20	cm3/1000 strokes : +- 6.0 Check tolerance
	I	cm3/1000s. : +- 9.0
ANEROID/ALTITUDE	1	· · /.0
COMPENSATOR TEST	+	Aneroid pressure
	+	hPa : -
	+	Rated speed rpm : 1200
SETTING	†	Del. quantity
Rated speed rpm : 1200	ī	cm3/1000 strokes : 183.0 Tolerance
Pressure hPa : 1200		cm3/1000 strokes : +- 1.0
Tresdate that the	1	Check tolerance
MEASUREMENT	+	cm3/1000s. : +- 4.0
	†	
Pressure hPa : - Rated speed rpm : 1200	†	BREAKAWAY
rack travel mm : -2.		DREARAWAT
Tolerance mm : +- 0.		
	+	Rack travel in mm : -1.00
Rated speed rpm : 1200	+	Rated speed rpm : 1365
200	+	Tolerance 1/min : + 5
Pressure hPa : 200 rack travel mm : -1.		
Tolerance mm : + 0.		
rocerarice and	+	STARTING FUEL DELIVERY
Pressure hPa : 440		
rack travel mm : -0.		Rated speed rpm : 100
Tolerance mm : +- 0.	.05	Del. quantity
		cm3/1000 strokes : 100.0 Tolerance
START CUT-OUT		cm3/1000 strokes : +- 15.0
START OF OUT	1	Check tolerance
	30	cm3/1000s. : +- 19.0
	2.75	
	+	
Check	10	
<pre>speed 1/min : &gt; 1 Check</pre>	i I	LOW IDLE
	285	wayrr naw'tute
	+	Rated speed rpm : 325

Del. quantity cm3/1000 strokes	:	28.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.07.95 Test oil : ISO 4113

Combination No. : 0 402 746 894

Injection pump

Pump designation : PES6P110A320RS7208

EP type number : 0 412 716 803

Governor

Governer design. : RQV275...1175PA942

: -1K

Governer no.

: 0 421 815 244

Cust. part No. : CCEP 5100A

Customer-spec. information

Customer : RVI

Moter

: MIDRO60226 M

Power KW

: 210.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly

: 0 681 343 009

Opening pressure

bar

: 173.5

Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

: 4.15 : + 0.05 Prestroke mm Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 13.50Tolerance mm : +0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm: 14.05

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 171.0

800

- ·	
Tolerance cm3/1000 strokes : +- 1.0	+ Tolerance mm : +- 0.25
Check tolerance	- Rated speed rpm : 550 - guide sleeve
cm3/1000s. : +- 3.5	+ travel mm : 3.92 + Tolerance mm : +- 0.25
Spreed Tolerance	Rated speed rpm : 1650
cm3/1000 strokes : 4.0	guide sleeve travel mm : 13.50
Check tolerance cm3/1000s. : 7.5	Tolerance mm : +- 0.50
Rated speed rpm : 275	GUIDE SLEEVE POSITION
Rack travel in mm : -8.80	Rated speed rpm : 1400
Tolerance mm : +- 0.20	Rack travel in mm : 13.00
Del. quantity	+ Tolerance mm : +- 1.30
cm3/1000 strokes : 21.0 Tolerance	
cm3/1000 strokes : +- 2.5 Check tolerance	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : +- 5.0	Rated speed rpm : 1175
Spreed	+ Aneroid pressure
Tolerance cm3/1000 strokes : 4.5	+ hPa : 1000 + Del. quantity
Check tolerance	+ cm3/1000 strokes : 171.0
cm3/1000s. : 7.5	Tolerance
	+ cm3/1000 strokes : +- 1.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : +- 3.5
WITH GOVERNOR	+ Spreed + Tolerance
GUIDE SLEEVE TRAVEL	cm3/1000 strokes : 4.0 Check tolerance
Rated speed rpm : 275	+ cm3/1000 strokes : 4.0
	cm3/1000 strokes : 4.0 Check tolerance
Rated speed rpm : 275 guide sleeve	cm3/1000 strokes : 4.0 Check tolerance
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER control lever
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 488 guide sleeve	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888 guide sleeve travel mm : 6.57 Tolerance mm : +- 0.25  Rated speed rpm : 390	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1245 Tolerance 1/min : +- 5  rack travel mm : -16.05
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888 guide sleeve travel mm : 6.57 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve guide sleeve : 390 guide sleeve	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1245 Tolerance 1/min : +- 5  rack travel mm : -1G.05 Rated speed rpm : 1430
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888 guide sleeve travel mm : 6.57 Tolerance mm : +- 0.25  Rated speed rpm : 390	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1245 Tolerance 1/min : +- 5  rack travel mm : -16.05 Rated speed rpm : 1430 Tolerance 1/min : +- 15
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888 guide sleeve travel mm : 6.57 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 2.39 Tolerance mm : +- 0.25	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1245 Tolerance 1/min : +- 5  rack travel mm : -16.05 Rated speed rpm : 1430 Tolerance 1/min : +- 15  rack travel mm : -13.55
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888 guide sleeve travel mm : 6.57 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : +- 0.25	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1245 Tolerance 1/min : +- 5  rack travel mm : -16.05 Rated speed rpm : 1430 Tolerance 1/min : +- 15  rack travel mm : -13.55 Tolerance mm : -13.55 Tolerance mm : +- 0.55
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1256 guide sleeve travel mm : 9.17 Tolerance mm : +- 0.25  Rated speed rpm : 888 guide sleeve travel mm : 6.57 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 2.39 Tolerance mm : +- 0.25	cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 7.5  CONTROL LEVER  control lever position degree : 114.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1245 Tolerance 1/min : +- 5  rack travel mm : -16.05 Rated speed rpm : 1430 Tolerance 1/min : +- 15  rack travel mm : -13.55

		+		
LOW IDLE		+	Pressure hPa rack travel mm Tolerance mm	: 520 : -1.45 : +- 0.05
control lever position degree tolerance degree		+	START CUT-OUT	
Testing:		+ +	Rated speed rpm Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm		+	Check speed 1/min Check	: > 130
Rated speed rpm	: 200	‡	speed 1/min	: < 220
CRT mm max.	: < -8.20	‡	FUEL DELIVERY CHA	RACTERISTICS
Rated speed rpm	: 415	†	Aneroid pressure hPa	: 1000
TORQUE CONTROL			Rated speed rpm Del. quantity cm3/1000 strokes	
Rated speed rpm	: 1175	+	Tolerance cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm		† † †	Check tolerance cm3/1000s.	: +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 700 : -6.05 : + 0.10	‡	Aneroid pressure hPa Rated speed rpm Del. quantity	
Rated speed rpm rack travel mm Tolerance mm	: -0.35	† † †	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: ← 5.0
ANEROID/ALTITUDE COMPENSATOR TEST		<del></del> ‡	cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 8.0
SETTING		† †	Aneroid pressure hPa Rated speed rpm	: - : 500
Rated speed rpm Pressure hPa	: 1175 : 1000	‡	Del. quantity cm3/1000 strokes	: 75.0
MEASUREMENT		+	Tolerance cm3/1000 strokes	: + 1.0
Pressure hPa Rated speed rpm rack travel mm	: -3.30	+	Check tolerance cm3/1000s.	: +- 3.5
Tolerance mm	: + 0.20	‡	BREAKAWAY	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1175 : 240 : -2.70 : +- 0.20	† † † +	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1245

## STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

cm3/1000s. : +- 19.0

## LOW IDLE

Rated speed rpm : 275

Del. quantity

cm3/1000 strokes : 21.0

Tolerance

cm3/1000 strokes : +- 2.5

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

cm3/1000s. : 7.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 22.08.95 : ISO 4113

Combination No. : 0 402 746 909

Injection pump

Pump designation : PES6P120A320RS7236

EP type number

: 0 412 726 848

Governor

Governer design. : RQV275...1000PA1001

: -1

Governer no.

: 0 421 813 936

Cust. part No. : CCEP 5116A PROJ.171

Customer-spac, information

: RVI Customer

: MIDR 063540 J/3 Motor

Power KW : 306.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inter

temp. °C

Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 588 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 4.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. :

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 13.80

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 310.0

Tolerance cm3/1000 strokes : +- 1.0	-
Check tolerance cm3/1000s. : +- 4.0	- CONTROL LEVER
Spreed Tolerance cm3/1000 strokes : 5.0	- control lever - position degree : 302.0 - tolerance degree : +- 4.0
Check tolerance	RATED SPEED
cm3/1000s. : 9.0	- rack travel mm : -1.00 - Rated speed rpm : 1070
Rated speed rpm : 300	Tolerance 1/min : +- 5
Rack travel in mm: -8.60 Tolerance mm: + 0.10 Del. quantity	- rack travel mm : -9.70 - Rated speed rpm : 1210 - Tolerance 1/min : +- 15
cm3/1000 strokes : 31.0	rack travel mm : -13.25 Tolerance mm : +- 0.55
cm3/1000 strokes : + 2.0 Check tolerance	Rated speed rpm : 1350
cm3/1000s. : + 5.0 + 5.0	
Tolerance	- LOW IDLE
cm3/1000 strokes : 8.0 + Check tolerance	•
cm3/1000s. : 12.0	control lever position degree : 246.0 tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Testing:
+	Rated speed rpm : 300
GUIDE SLEEVE POSITION	rack travel mm : -8.60 Tolerance mm : +- 0.10
Rated speed rpm : 1150	Rated speed rpm : 200
Rack travel in mm : 16.50 Tolerance mm : + 1.30	CRT mm max. : < -7.20
	Rated speed rpm : 370
FULL LOAD DELIVERY AT FULL LOAD STOP	TORQUE CONTROL
Rated speed rpm : 600 Aneroid pressure	Rated speed rpm : 600
hPa : 1000 + Del. quantity +	Rated speed rpm : 1000
cm3/1000 strokes : 310.0	Tolerance mm : + 0.10
cm3/1000 strokes : + 1.0 Check tolerance	Rated speed rpm : 500 rack travel mm : -5.50
cm3/1000s. : + 4.0	Tolerance mm : +- 0.10
Tolerance	
cm3/1000 strokes : 5.0 + Check tolerance + Check tolerance	
cm3/1000s. : 9.0 +	

NEROID/ALTITUDE OMPENSATOR TEST		+ cm3/1000S. : +- 8.0 + Spreed + Tolerance
OMERICATOR TEST		+ cm3/1000 strokes : 8.0
FTTING		Check tolerance
ETTING		+ cm3/1000s. : 12.0
ated speed rpm		Aneroid pressure
ressure hPa	: 1000	+ hPa : - + Rated speed rpm : 500
EASUREMENT		+ Del. quantity
		+ cm3/1000 strokes : 152.0
ressure hPa ated speed rpm	: – : 500	+ Tolerance + cm3/1000 strokes : +- 1.0
ack travel mm		Check tolerance
lerance mm	: +- 0.20	cm3/1000s. : +- 4.0
ated speed rpm	; 500	
		BREAKAWAY
ressure hPa	: 240 : -3.80	†
ack travel mm olerance mm	: -3.60 : +- 0.20	Rack travel in mm : -1.00
- 101 GI 700 HRH	. 0,20	+ Rated speed rpm : 1070
ressure hPa	: 600	Tolerance 1/min : +- 5
ack travel mm	: -0.95	†
lerance mm	: <del>+-</del> 0.05	I
<del></del>	<del> </del>	STARTING FUEL DELIVERY
TART CUT-OUT		† Nal markita
ated speed rpm	: > 100	+ Del. quantity + cm3/1000 strokes : 160.0
ated speed rpm		Tolerance
, ,		+ cm3/1000 strokes : +- 10.0
neck		+ Check tolerance + cm3/1000s. : +- 14.0
beed 1/min heck	: > 80	+ cm3/1000s. : +- 14.0
peed 1/min	: < 245	+
		†
JEL DELIVERY CHA	RACTERISTICS	LOW IDLE
neroid pressure		Rated speed rpm : 300
<sup>°</sup> a	: 1000	+ Del. quantity
ated speed rpm	: 1000	cm3/1000 strokes : 31.0 Tolerance
el. quantity n3/1000 strokes	: 287.N	+ cm3/1000 strok $3:+-2.0$
lerance		+ Check tolerance
3/1000 strokes	: +- 3.0	+ cm3/1000s. : + 5.0
eck tolerance 3/1000s.	: +- 6.0	+ Spreed + Tolerance
D/ 100003.	, +- 0.0	+ cm3/1000 strokes : 8.0
eroid pressure		Check tolerance
<sup>°</sup> a	: -	+ cm3/1000s. : 12.0
ited speed rpm	: 500	†
el. quantity 3/1000 strokes	: 138.0	İ
ilerance	. 150.0	1
3/1000 strokes	: +- 5.0	End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS
Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.08.95 Test oil : ISO 4113

Combination No. : 0 402 746 931

Injection pump

Pump designation : PES6P120A320RS7236 EP type number : 0 412 726 848

Governor

Governer design. : RQV275...1000PA1001

: -2

Governer no. : 0 421 813 989

Cust. part No. : CCEP5128A 66-194

Customer-spec. information Customer : RVI

Motor : MIDR 063540 N/3

Power KW : 283.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.55
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 19.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : -7.25
Tolerance mm : + 0.30

Del. quantity

cm3/1000 strokes : 74.0

D15

Tolerance cm3/1000 strokes	: +- 1.0	Rated speed rpm : 1190
Check tolerance cm3/1000s.	: +- 4.0	Rack travel in mm : 13.20 Tolerance mm : +- 1.30
Spreed	‡	
Tolerance cm3/1000 strokes	: 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 600  Aneroid pressure
Check tolerance cm3/1000s.	: 7.0	hPa : 1000 Del. quantity
Rated speed rpm	: 600	cm3/1000 strokes : 290.0 Tolerance cm3/1000 strokes : +- 2.0
Rack travel in mm Tolerance mm	ţ	Check tolerance cm3/1000S. : +- 5.0 Spreed Tolerance
Del. quantity cm3/1000 strokes	: 290.0	cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Tolerance cm3/1000 strokes	: +- 2.0	
Check tolerance cm3/1000s.	: + 5.0	CONTROL LEVER
Spreed Tolerance cm3/1000 strokes	: 8.0	control lever position degree : 301.0 tolerance degree : + 4.0  RATED SPEED
Check tolerance cm3/1000S. Rated speed rpm	: 12.0	rack travel mm : -1.00 Rated speed rpm : 1070 Tolerance 1/min : +- 5
Rack travel in mm Tolerance mm Del. quantity	: -8.20 : + 0.10	rack travel mm : -9.30 Rated speed rpm : 1205 Tolerance 1/min : +- 15
cm3/1000 strokes Tolerance cm3/1000 strokes	+	rack travel mm : -12.85 Tolerance mm : +- 0.55 Rated speed rpm : 1350
Check tolerance cm3/1000S. Spreed	: +- 5.0	
Tolerance cm3/1000 strokes	: 6.0	LOW IDLE
Check tolerance cm3/1000S.	: 10.0	control lever position degree : 247.0 tolerance degree : +- 4.0
(B) SETTING OF INJ WITH GOVERNOR	JECTION PUMP	Testing:
GUIDE SLEEVE POSIT	TION	Rated speed rpm : 300 rack travel mm : -8.20 Tolerance mm : +- 0.10

Rated speed rpm	: 200	+ Aneroid pressure + hPa : 1000
CRT mm max.	: < -6.80	Rated speed rpm : 1000 Del. quantity
Rated speed rpm		- cm3/1000 strokes : 270.0 - Tolerance
vated speed rpm	. 303	+ cm3/1000 strokes : +- 4.0
FORQUE CONTROL		
Rated speed rpm	: 600	Anei oid pressure
Rated speed rpm	1000	+ hPa : - Rated speed rpm : 600
Tolerance mm	: +- 0.10	+ Del. quantity
Rated speed rpm	: 600	- cm3/1000 strokes : 159.0 - Tolerance
rack travel mm Tolerance mm	: -4.50	cm3/1000 strokes : +- 5.0
loterance mm	: 0.10	+ Check tolerance + cm3/1000s. : +- 8.0
ANEROID/ALTITUDE		Spreed Tolerance
COMPENSATOR TEST		cm3/1000 strokes : 8.0
		+ Check tolerance + cm3/1000S. : 12.0
SETTING		Anonoid process
Rated speed rpm	: 500	+ Aneroid pressure + hPa : -
Pressure hPa	: 1000	Rated speed rpm : 500
MEASUREMENT		+ Del. quantity + cm3/1000 strokes : 167.0
		+ Tolerance
Pressure hPa Rated speed rpm	: – 500	cm3/1000 strokes : +- 1.0
rack travel mm	: -3.80	+ cm3/1000s. : +- 4.0
Tolerance mm	: +- 0.30	<u> </u>
Rated speed rpm	: 500	BREAKAWAY
Pressure hPa	: 240	<del>-</del>
rack travel mm Tolerance mm	: -2.60 : +- 0.20	Rack travel in mm: -1.00 Rated speed rpm: 1070
		+ Tolerance 1/min : +- 5
Pressure hPa		1
rack travel mm Tolerance mm	: +- 0.05	Ţ <u></u>
	- · · · · · · · · · · · · · · · · · · ·	STARTING FUEL DELIVERY
START CUT-OUT		Del. quantity
Pated cheed nom	: > 100	cm3/1000 strokes : 160.0 Tolerance
Rated speed rpm Rated speed rpm		+ cm3/1000 strokes : + 10.0
		Check tolerance
Check speed 1/min	: > 80	cm3/1000s. : +- 14.0
Check		+
speed 1/min	: < 215	
		•
FUEL DELIVERY CHA		+ LOW IDLE

Del. quantity
cm3/1000 strokes : 31.0
Tolerance
cm3/1000 strokes : + 2.5
Check tolerance
cm3/1000s. : + 5.0
Spreed
Tolerance
cm3/1000 strokes : 6.0
Check tolerance
cm3/1000s. : 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25,09,95 : ISO 4113

Combination No. : 0 401 446 151

Injection pump

Pump designation : PE6R120/720RS1507

EP type number : 0 411 426 004

Governor

Governer design. : RQV300...950R5K

: 0 421 415 005 Governer no.

Cust, part No. : 11032038

: -P03 V.02/95

Customer-spec. information

: VME Customer

: TD164 KAE Motor Power KW : 503.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 2 417 413 078

2.5 Inlet press. bar :

Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

600 x length mm :

RFMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm 5.45

: +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

: +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

875 Rated speed rpm :

Rack travel in mm : 14.25

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 382.0

Tolerance

cm3/1000 strokes : +- 1.0

D19

	+ Rated speed rpm : 450
Check tolerance	guide sleeve
cm3/1000s. : +- 4.0	travel mm : 3.68
	_ + Tolerance mm : +- 0.25
Spreed Tolerance	Rated speed rpm : 1240
cm3/1000 strokes : 8.0	+ Rated speed rpm : 1240 + guide sleeve
CIIIJ/ 1000 SCIORES . O.U	travel mm : 13.50
Check tolerance	+ Tolerance mm : +- 0.50
cm3/1000s. : 11.0	+
Rated speed rpm : 300	+ GUIDE SLEEVE POSITION
	Poted speed speed 1100
Rack travel in mm : 6.20	Rated speed rpm : 1100
Tolerance mm : +- 0.30	Rack travel in mm : 8.50
Del. quantity	+ Tolerance mm : +- 2.50
cm3/1000 strokes : 38.0	+
Tolerance	+
cm3/1000 strokes : +- 2.5	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	Data de constituir de la Care
cm3/1000s. : +- 5.0	Rated speed rpm : 875
Spreed Tolerance	+ Aneroid pressure + hPa : 1500
cm3/1000 strokes : 5.0	+ Del. quantity
Check tolerance	cm3/1000 strokes : 382.0
cm3/1000s. : 8.0	+ Tolerance
	+ cm3/1000 strokes : + 1.0
	+ Check tolerance
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : +- 4.0
WITH GOVERNOR	+ Spreed
	+ Tolerance
CHARL OF BOTH TOAUE!	+ cm3/1000 strokes : 8.0
GUIDE SLEEVE TRAVEL	Check tolerance : 11.0
Rated speed rpm : 300	T (11.0
guide sleeve	1
travel mm : 2.09	
Tolerance mm : +- 0.25	CONTROL LEVER
	+
Rated speed rpm : 978	t control lever
guide sleeve	+ position degree : 63.0
travel mm : 9.28	tolerance degree : +- 4.0
Tolerance mm : +- 0.25	‡ control lever
Rated speed rpm : 705	position degree : 118.0
guide sleeve	tolerance degree : +- 4.0
travel mm : 6.07	-
Tolerance mm : +- 0.25	RATED SPEED
	+
Rated speed rpm : 316	rack travel mm : 13.25
guide sleeve	Rated speed rpm : 965
travel mm : 2.30	Tolerance 1/min : +- 5
Tolerance mm : +- 0.25	nock thought me
Rated speed rpm : 366	+ rack travel mm : 4.00 + Rated speed rpm : 1080
Rated speed rpm : 366 guide sleeve	+ Tolerance 1/min : + 15
travel mm : 2.90	Total ance mining . ~ 15
	0.50
Tolerance mm : +- 0.25	+ rack travel mm : U.DU
Tolerance mm : +- 0.25	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50

Rated speed rpm	: 1150	+ Pressure hPa : - Rated speed rpm : 875 rack travel mm : 10.20 Tolerance mm : + 0.10			
LOW IDLE		Rated speed rpm : 875			
		+ Rated speed rpm : 075			
control lever position degree tolerance degree		Pressure hPa : 480 rack travel mm : 2.00 Tolerance mm : +- 0.20			
control lever position degree tolerance degree	: 23.0 : +- 4.0	Pressure hPa : 200 rack travel mm : 0.25 Tolerance mm : +- 0.05			
Testing:		<u> </u>			
Rated speed rpm rack travel mm Tolerance mm	: 6.20	FUEL DELIVERY CHARACTERISTICS			
Rated speed rpm	. 200	+ Aneroid pressure + hPa : 1500			
Kated Speed rpill	. 200	Rated speed rpm : 550			
CRT mm min.	: > 8.40	Del. quantity cm3/1000 strokes : 399.0			
Rated speed rpm	: 390	Tolerance cm3/1000 strokes : +- 3.0			
TORQUE CONTROL		- Check tolerance - cm3/1000s. : +- 6.0 - Spreed			
Rated speed rpm	: 875	+ Tolerance			
rack travel mm Tolerance mm		+3/1000 strokes : 10.0 + Check tolerance			
Ontrol amond man	. 550	† cm3/1000s. : 14.0			
Rated speed rpm rack travel mm		Aneroid pressure			
Tolerance mm	: +- 0.10	+ hPa : -			
Rated speed rpm	• 950	+ Rated speed rpm : 550 + Del. quantity			
rack travel mm	: 13.95	cm3/1000 strokes : 256.0			
Tolerance mm	: +- 0.15	+ Tolerance + cm3/1000 strokes : +- 1.0			
Rated speed rpm	: 350	Check tolerance			
Rated speed rpm rack travel mm Tolerance mm	: 12.00 : +- 0.20	Check tolerance : +- 4.0			
		BREAKAWAY			
ANEROID/ALTITUDE COMPENSATOR TEST		†			
COMPENSATOR TEST		Rack travel in mm: 13.25			
SETTING		Rated speed rpm : 965 Tolerance 1/min : + 5			
Rated speed rpm	: 875	+			
Pressure hPa rack travel mm	: 14.25	STARTING FUEL DELIVERY	STARTING FUEL DELIVERY		
Tolerance mm	: +- 0.05	Rated speed rpm : 100			
MEASUREMENT		rack travel mm : 10.10 Tolerance mm : +- 0.50			

Del. quantity cm3/1000 strokes : 220.0 Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

300 Rated speed rpm : Del. quantity cm3/1000 strokes : 38.0 Tolerance cm3/1000 strokes : +-2.5 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.95 Test oil : ISO 4113

Combination No. : 0 402 046 789

Injection pump

Pump designation : PES6P120A320RS3139

EP type number : 0 412 026 718

Governor

Governer design. : RQV275...1000PA728

: -3

Governer no. : 0 421 813 657

Cust. part No. : CCEP 5070 -116

Customer-spec. information

Customer : RVI

Motor : MIDR 062045 H

Power KW : 227.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55
Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 11.15

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 197.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

	+		
Spreed	+	control lever	
Tolerance	<del>}</del>	position degree	: 119.0
cm3/1000 strokes	: 5.0	tolerance degree	
	<del>}</del>	3	
Check tolerance		RATED SPEED	
cm3/1000s.	: 9.0		
	+	rack travel mm	: -1.00
Rated speed rpm	: 275	Rated speed rpm	
	+	Tolerance 1/min	: +- 5
	+		
Rack travel in mm		rack travel mm	
Tolerance mm	: +- 0.15	Rated speed rpm	
Del. quantity	<u> </u>	Tolerance 1/min	: +- 15
cm3/1000 strokes	: 27.0		40.75
Tolerance		rack travel mm	
cm3/1000 strokes	: +- 2.0	Tolerance mm	
Check tolerance	: ← 5.0 <sup>†</sup>	Rated speed rpm	: 1300
cm3/1000S. Spreed	· +- 5.0		
Tolerance	I		
cm3/1000 strokes	. 8.0 I	LOW IDLE	
Check tolerance	. 5.5	CON EVEL	
cm3/1000s.	: 12.0		
	+	control lever	
	<del> </del>	position degree	: 67.0
(B) SETTING OF IN.	JECTION PUMP +	tolerance degree	: +- 4.0
WITH GOVERNOR	+		
	+	Testing:	
	+		
		Rated speed rpm	: 275
GUIDE SLEEVE POSIT	rion +	rack travel mm	
Dated annual annual	. 1170	Tolerance mm	: +- 0.15
Rated speed rpm	: 11/0	Dated aread non	: 200
Rack travel in mm	. 16.50	Rated speed rpm	: 200
Tolerance mm		CRT mm max.	: < -3.80
rocerance iiiii	· · · · · · · · I	CIVI IIIII IIIAX.	. \ 3.00
		Rated speed rpm	: 370
FULL LOAD DELIVERY	AT FULL LOAD STOP	water open vp	
	+		
Rated speed rpm	: 1000	TORQUE CONTROL	
Aneroid pressure	+		
hPa	: 1000 +	Rated speed rpm	: 600
Del. quantity	+		
cm3/1000 strokes	: 197.0	ANIEDOTO /AL TITULE	
Tolerance	†	ANEROID/ALTITUDE	
cm3/1000 strokes	: +- 1.0 +	COMPENSATOR TEST	
Check tolerance cm3/1000s.	: +- 4.0		
Spreed	· - 4.0	SETTING	
Tolerance	I	2C11T140	
cm3/1000 strokes	: 5.0	Rated speed rpm	: 500
Check tolerance	<u> </u>	Pressure hPa	: 1000
cm3/1000s.	: 9.0		· · · · · <del>· •</del>
·= · = <del></del>	1	MEASUREMENT	
	+		
<del></del>		Pressure hPa	: -
CONTROL LEVER	+	Rated speed rpm	: 500
	+	rack travel mm	: -2.20

Tolerance mm	: +- 0.20	
Rated speed rpm	: 500	
Danney has had	: 160	
Pressure hPa rack travel mm	: 160 : -1.70	
Tolerance mm	: +- 0.10	
TOCCT GITTO THE		
Pressure hPa	: 280	
rack travel mm	: -0.75	
Tolerance mm	: +- 0.05	
OTADE OUT OUT	····	
START CUT-OUT		
Rated speed rpm	: > 100	
Rated speed rpm	: < 195	
Check		
speed 1/min	: > 80	
Check	00	
speed 1/min	: < 215	
FUEL DELIVERY CHA	RACTERISTICS	
TOLL DELIVERY CHA	WACIENIOI ICO	
Aneroid pressure		
hPa	: 1000	
Rated speed rpm	: 600	
Del. quantity	407.0	
cm3/1000 strokes	: 197.0	
Tolerance cm3/1000 strokes	: +- 3.0	
Check tolerance	. += 5.0	
cm3/1000s.	: +- 6.0	
0.1107 1 0000 1	•	
Aneroid pressure		
hPa	: -	
Rated speed rpm	: 500	
Del. quantity cm3/1000 strokes	: 104.0	
Tolerance	. 104.0	
cm3/1000 strokes	: + 1.0	
Check tolerance		
cm3/1000s.	: +- 4.0	
	····	_
BREAKAWAY		
	4.00	
Rack travel in mm		
Rated speed rpm Tolerance 1/min	: +- 5	
TOTAL MILLS		
STARTING FUEL DEL	IVERY	
	. 100	

Del. quantity cm3/1000 strokes : 145.0 Tolerance cm3/1000 strokes : +- 10.0Check tolerance cm3/1000s. : +- 14.0 LOW IDLE Rated speed rpm : 275 Del. quantity cm3/1000 strokes : 27.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : <del>+-</del> 5.0 Spreed Tolerance cm3/1000 strokes : 8.0

: 12.0

End of test specification sheet

Check tolerance

cm3/1000s.

Rated speed rpm : 100

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 27.09.95 Test oil : ISO 4113

Combination No. : 0 402 746 603

Injection pump

Pump designation : PES6P120A320RS7359 EP type number : 0 412 726 925

Governor

Governer design. : RQ275/1050PA999-7 Governer no. : 0 421 801 799

Cust. part No. : CCEP 5153 66-224

Customer-spec. information

Customer : RVI

Motor : MIHR062045 A41

Power KW : 185.0

# TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

# BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.70
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.25 Tolerance mm : + 0.75

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 1

#### BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.70

Tolerance mm : + 0.05
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 191.0

Tolerance

cm3/1000 strokes : +- 1.0

\_\_\_\_\_\_

Check tolerance		+ guide sleeve
cm3/1000s.	: +- 4.0	+ travel mm : 11.50
		+ Tolerance mm : +- 0.50
Spreed		+
Tolerance		
cm3/1000 strokes	: <b>5.0</b>	→ GUIDE SLEEVE POSITION
		. +
Check tolerance		+ Rated speed rpm : 600
cm3/1000s.	: 9.0	+
		+ Rack travel in mm : 20.00
Rated speed rpm	: 275	+ Tolerance mm : +- 0.80
, ,		+
Rack travel in m	m: -5.70	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm	: +- 0.10	+
Del. quantity		+ Rated speed rpm : 600
cm3/1000 strokes	34.0	+ Aneroid pressure
Tolerance		+ hPa : 1000
cm3/1000 strokes	· +- 2 D	Del. quantity
Check tolerance		cm3/1000 strokes : 191.0
cm3/1000s.		Tolerance
Spreed		+ cm3/1000 strokes : +- 1.0
Tolerance		+ Check tolerance
cm3/1000 strokes	. • 0	+ cm3/1000s. : +- 4.0
Check tolerance		Spreed
cm3/1000s.	: 12.0	+ Tolerance
		- cm3/1000 strokes : 5.0
(0)		+ Check tolerance
(B) SETTING OF I	NIECITON PUMP	+ cm3/1000s. : 9.0
WITH GOVERNOR		†
		†
GUIDE SLEEVE TRA	VEL	CONTROL LEVER
		+
Rated speed rpm	: 275	+ control lever
guide sleeve		position degree : 274.0
travel mm	: 1.75	tolerance degree : +- 4.0
Tolerance mm		
THE STREET		RATED SPEED
Rated speed rpm	• 1145	100000000000000000000000000000000000000
guide sleeve	• 1172	rack travel mm : -1.00
travet mm	: 6.55	Rated speed rpm : 1138
Tolerance mm	: +- 0.15	+ Tolerance 1/min : +- 5
rocerance mm	, <del>-</del> 0,15	I Toterance During : *- 3
)nead amand	. 1050	T mark thought an a 0.70
Rated speed rpm	: 1050	rack travel mm : -8.70
guide sleeve	. 4 00	Rated speed rpm : 1265
travel mm	: 6.00	Tolerance 1/min : +- 15
Tolerance mm	: <del></del> 0.10	†
	<b></b>	+ rack travel mm : -12.20
Rated speed rpm	: 594	+ Tolerance mm : + 0.50
guide sleeve		Rated speed rpm : 1375
travel mm	: 5.11	+
Tolerance mm	: +- 0.10	†
	<b></b>	
Rated speed rpm	: 720	+ LOW IDLE
guide steeve		+
travel mm	: 6.00	+
Tolerance mm	: + 0.10	↓ control lever
	<del>-</del>	position degree : 255.0
lated speed rpm	: 1380	tolerance degree : + 4.0
		,

# Testing:

Rated speed rpm : 275 rack travel mm : -5.70 Tolerance mm : +-0.10

rack travel mm : 2.00
Rated speed rpm : 585
Tolerance 1/min : +- 20

Rated speed rpm : 175

CRT mm min. : > -3.80

#### TORQUE CONTROL

Rated speed rpm : 600 Tolerance mm : +- 0.05

Rated speed rpm : 1050 Tolerance mm : +- 0.10

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500 Pressure hPa : 1000

#### MEASUREMENT

Pressure hPa : - Rated speed rpm : 500 rack travel mm : -1.10 Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 140
rack travel mm : -0.66
Tolerance mm : +- 0.15

Pressure hPa : 200 rack travel mm : -0.25 Tolerance mm : +-0.05

# START CUT-OUT

Rated speed rpm : > 100 Rated speed rpm : < 195

Check

speed 1/min :> 80

Check

**speed 1/min** : < 215

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : 1000 Rated speed rpm : 1050

Del. quantity

cm3/1000 strokes : 198.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Aneroid pressure

hPa : -Rated speed rpm : 500

Del. quantity

cm3/1000 strokes : 156.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

#### BREAKAWAY

Rack travel in mm : -1.00
Rated speed rpm : 1138
Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 145.0
Tolerance
cm3/1000 strokes : +- 15.0
Check tolerance
cm3/1000s. : +- 19.0

# LOW IDLE

Rated speed rpm : 275
Del. quantity
cm3/1000 strokes : 34.0

Tolerance

cm3/1000 strokes : + 2.0

Check tolerance

cm3/1000s. : +- 5.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 09,10,95 Edition Test oil : ISO 4113

Combination No. : 0 403 548 033AC

Injection pump

Pump designation : PE8MW100/720LS1173 EP type number : 0 413 508 108

Governor

Governer design. : RQV450...1150MW70-1 : 0 420 083 179

Governer no.

Cust. part No. :

Customer-spec. information

Customer : KHD

Motor F8L 513 Power KW : 202.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

: 1- 8- 7- 2- 6 : - 5- 4- 3 Firing order

Phasing : 0-45-90-135-180 : -225-270-315

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1125

Rack travel in mm : 13.00

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes: 130.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

	+	
Check tolerance cm3/1000s.	: 7.0	RATED SPEED
	+	rack travel mm : 12.00
Rated speed rpm	: 450 <del> </del>	Rated speed rpm : 1160
	†	Tolerance 1/min : +- 5
Rack travel in mm		rack travel mm : 3.50
Tolerance mm	: +- 0.10 +	rack travel mm : 3.50 Rated speed rpm : 1215
Del. quantity	+	Tolerance 1/min : +- 15
cm3/1000 strokes Tolerance	: 13.0	rack travel mm : 0.50
cm3/1000 strokes		rack travel mm : 0.50 Tolerance mm : +- 0.50
Check tolerance	· 2.0	
	: +- 4.5	Rated speed rpm : 1320
cm3/1000s. Spreed	· - 4.3	
Tolerance	I	
cm3/1000 strokes	, zs I	LOW IDLE
Check tolerance	· 3.5	COM IDEE
cm3/1000s.	: 5,5 I	
	. J.J	control lever
	1	position degree : 84.0
(B) SETTING OF INJE	ECTION PUMP	tolerance degree : +- 4.0
WITH GOVERNOR	1	total and degree . The Tib
WITH GOVERNOR	+	Testing:
	+	
		Rated speed rpm : 450
GUIDE SLEEVE POSIT	TON +	rack travel mm : 5.00
Dahad assad som	. 4450	Tolerance mm : +- 0.10
Rated speed rpm	: 1150	Rated speed rpm : 100
Rack travel in mm :	: 16.50	11404 0004 1011
Tolerance mm		CRT mm min. : > 19.50
	+	
FULL LOAD DELIVERY	AT FULL LOAD STOP	TORQUE CONTROL
~	+	0.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1
Rated speed rpm :	: 1125 +	Rated speed rpm : 1125
Aneroid pressure	†	rack travel mm : 13.00
hPa :	; - †	Tolerance mm : +- 0.05
Del. quantity		
cm3/1000 strokes :	150.0	
Tolerance	10	CTART CUT OUT
cm3/1000 strokes : Check tolerance	: +- 1.0 +	START CUT-OUT
	: + 4.0	Rated speed rpm : > 100
Spreed	T 4.0	Rated speed rpm : < 370
Tolerance	I	rated speed (piii . \ 5/0
cm3/1000 strokes :	· 4.0	Check
Check tolerance	1.0	speed 1/min :> 80
cm3/1000s. :	7.0	Check
cm3/10003	1.0	speed 1/min : < 390
	+	
CONTROL LEVER	+	
CONTROL LEVER	Ī	BREAKAWAY
control lever	1	
position degree :	125.0	
tolerance degree :		Rack travel in mm : 12.00
	<u> </u>	Rated speed rpm : 1160
	<b>+</b>	and the second s

Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 145.0

Tolerance

cm3/1000 strokes : + 5.0

Check tolerance

cm3/1000s. : +- 8.0

# LOW IDLE

Rated speed rpm : 450 Del. quantity cm3/1000 strokes : 13.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s.: 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 14,11,95

Test oil

: ISO 4113

Combination No. : 0 402 048 705

Injection pump

Pump designation : PES8P120A320RS3199

EP type number : 0 412 028 705

Governor

Governer design. : RQV275...1050PA665

Governer no. : 0 421 813 370

Cust. part No. :

Customer-spec. information

Customer : RVI

Motor : MIVRO83530 Power KW : 320.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C : ← 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar : Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0 x length mm : 1000

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.55 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-8-4-2-7

: - 3- 6- 5

Phasing : 0-45-90-135-180

: -225-270-315

: + 0.30 Tolerance

Check

tolerance °NW : + - 0.50

Start of delivery mark

°NW after s.o.d. : 13.00 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 11.45 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 203.0

1	• 1
	guide sleeve
Tolerance cm3/1000 strokes : +- 1.0	travel mm : 11.50 Tolerance mm : +- 0.50
Check tolerance	
cm3/1000s. : +- 4.0	GUIDE SLEEVE POSITION
Spreed	Rated speed rpm : 1250
Tolerance	
cm3/1000 strokes : 5.0	Rack travel in mm : 10.45
+	Tolerance mm : +- 1.30
Check tolerance +	
cm3/1000s. : 9.0 +	
+	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 275	4050
†	Rated speed rpm : 1050
Paralla Annoual Statement 7 FO	Aneroid pressure hPa : 700
Rack travel in mm: -7.50 + Tolerance mm: +- 0.10 +	
Del. quantity	Del. quantity cm3/1000 strokes : 203.0
cm3/1000 strokes : 20.0	Tolerance
Tolerance	cm3/1000 strokes : +- 1.0
cm3/1000 strokes : + 3.0 +	Check tolerance
	cm3/1000s. : +- 4.0
Check tolerance cm3/1000s. : +- 6.0	Spreed
Spreed	Tolerance
Tolerance	cm3/1000 strokes : 5.0
cm3/1000 strokes : 8.0 +	Check tolerance
Check tolerance +	cm3/1000s. : 9.0
cm3/1000s. : 12.0 +	
†	
(D) CETTING OF THUESTON DUMP	CONTROL LEUED
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	control lever
	position degree : 65.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
000000 111111000	
Rated speed rpm : 275	control lever
guide sleeve	position degree : 300.0
travel mm : 0.89	tolerance degree : +- 4.0
Tolerance mm : + 0.20 +	
+	RATED SPEED
Rated speed rpm : 1135	4.00
guide sleeve	rack travel mm : -1.00
travel mm : 8.32	Rated speed rpm : 1120 Tolerance 1/min : +- 5
Tolerance mm : + 0.15	Toterance Timin : +- 3
Rated speed rpm : 781	rack travel mm : -7.45
guide steeve	Rated speed rpm : 1225
travel mm : 5.68	Tolerance 1/min : +- 15
Tolerance mm : + 0.25	
+	rack travel mm : -10.95
Butsel aread area 1 /00	Tolerance mm : +- 0.50
Rated speed rpm : 480 +	
guide sleeve	Tolerance mm : +- 0.50 Rated speed rpm : 1350
guide sleeve travel mm : 3.60	Rated speed rpm : 1350
guide sleeve	Rated speed rpm : 1350
guide sleeve travel mm : 3.60	Rated speed rpm : 1350  LOW IDLE

	1	
control lever	I	Check
position degree	: 245.0	speed 1/min :> 80
tolerance degree		Check
	+	speed 1/min : < 215
control lever	+	
position degree		
tolerance degree	: +- 4.0 +	FUEL DELIVERY CHARACTERISTICS
Testing:	†	Aneroid pressure
resting:	I	hPa · 700
Rated speed rpm	: 275	hPa : 700 Rated speed rpm : 650
rack travel mm	: -7.50 →	vet. quantity
Tolerance mm	: + 0.10	cm3/1000 strokes : 192.0
	+	Tolerance
Rated speed rpm	: 200 +	cm3/1000 strokes : +- 4.0
CRT mm max.	5 00	Check tolerance cm3/1000s. : +- 7.0
CRI IIII Max.	: < -3.80 I	cm3/1000s. : +- 7.0
Rated speed rpm	: 343	Aneroid pressure
Haram opeca i pill	1	hPa : -
	<del></del>	Rated speed rpm : 500
TORQUE CONTROL	+	Del. quantity
~	4050	cm3/1000 strokes : 111.0
Rated speed rpm	: 1050	Tolerance
Rated speed rpm	. 450	cm3/1000 strokes : +- 1.0 Check tolerance
kated speed (bill	· 656	cm3/1000s. : +- 4.0
<del></del>		4.0
ANEROID/ALTITUDE	<del>\</del>	
COMPENSATOR TEST	+	BREAKAWAY
	+	
OFTEING	†	Dools through in man at 1 00
SETTING	Ī	Rack travel in mm : -1.00 Rated speed rpm : 1120
Rated speed rpm	: 500	Tolerance 1/min : +- 5
Pressure hPa	: 700	
	+	
MEASUREMENT	+	
	†	STARTING FUEL DELIVERY
Pressure hPa		Dated aread man 100
Rated speed rpm rack travel mm		Rated speed rpm : 100 Del. quantity
Tolerance mm	: +- 0.10	cm3/1000 strokes : 175.0
TO COT WITH THE	1	Tolerance
Rated speed rpm	: 500	cm3/1000 strokes : +- 15.0
	+	Check tolerance
Pressure hPa	: 360 +	cm3/1000s. : +- 19.0
rack travel mm	: -1.90 : +- 0.10	
Tolerance mm	· + 0.10	
Pressure hPa	: 420	
rack travel mm	: -0.75	LOW IDLE
Tolerance mm	: +- 0.05 +	
	+	Rated speed rpm : 275
CTART OUT OUT	+	Del. quantity
START CUT-OUT	Ť	cm3/1000 strokes : 20.0 Tolerance
		101619116
Rated speed rom	: > 100	
Rated speed rpm Rated speed rpm	: > 100 : < 195	cm3/1000 strokes : +- 3.0

E07

Check tolerance : +- 6.0 cm3/1000s. Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 17.01.96

Test oil

: ISO 4113

Combination No. : 0 402 046 300

Injection pump

Pump designation : PES6P12OA32OFS419

EP type number : 0 412 026 037

Governor

Governer design. : RQV275...1100PA495

: -5

Governer no.

: 0 421 813 446

Cust. part No. : CCEP 5023 E 06-09

Customer-spec. information

Customer

: RVI

Motor

: MIDR 062045

Power KW

: 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

: 208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

E09

x inside diameter: 3.0 x length mm : 1000

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

: 2.85 Prestroke mm : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Tolerance

: +- 0.30

Check

tolerance °NW

: +- 0.50

Start of delivery mark

\*NW after s.o.d. : 10.50

Tolerance

: +- 0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 9.05

Tolerance mm

: +- 0.05

Del. quantity cm3/1000 strokes : 163.0

Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 9.0
Rated speed rpm	: 275
Rack travel in mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: +- 0.10 : 24.0
Check tolerance cm3/1000s. Spreed	: + 3.0 : + 6.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
(B) SETTING OF IN WITH GOVERNOR	
GUIDE SLEEVE TRAV	
Rated speed rpm guide sleeve	: 250
travel mm Tolerance mm	: 1.10 : + 0.10
Rated speed rpm guide sleeve	: 1100
travel mm	: 8.10 : +- 0.10
Tolerance mm	: +- 0.10
Rated speed rpm guide sleeve	: 450
travel mm	: 3.60
Tolerance mm	: +- 0.20
Rated speed rpm guide sleeve	: 850
travel mm Tolerance mm	: 6.20 : +- 0.10

Nated Speed Pill	. 1150
Rack travel in mm Tolerance mm	: 16.50 : +- 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure hPa Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	
cm3/1000S. Spreed Tolerance	: +- 4.0
cm3/1000 strokes Check tolerance cm3/1000s.	: 5.0 : 9.0
CONTROL LEVER	<del></del>
control lever position degree tolorance degree	: 64.0 : + 4.0
control lever position degree tolerance degree	
RATED SPEED	
rack travel mm Rated speed rpm Tolerance 1/min	: -1.00 : 1175 : +- 5
rack travel mm Rated speed rpm Tolerance 1/min	: -5.00 : 1240 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: -8.55 : +- 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	: 68.0 : + 4.0

Rated speed rpm : 1150

GUIDE SLEEVE POSITION

control lever		+ Check + speed 1/min : < 215
position degree tolerance degree	: 9.0 : +- 4.0	<u> </u>
Testing:		+ FUEL DELIVERY CHARACTERISTICS +
Rated speed rpm rack travel mm Tolerance mm	: 275 : -4.10	+ Aneroid pressure + hPa : 700 + Rated speed rpm : 700
		Del. quantity cm3/1000 strokes : 153.0
Rated speed rpm CRT mm max.		Tolerance cm3/1000 strokes : +- 3.0
Rated speed rpm		
		Aneroid pressure hPa : -
TORQUE CONTROL		Rated speed rpm : 500 Del. quantity
Rated speed rpm		cm3/1000 strokes : 103.0 Tolerance
Rated speed rpm	: 700	- cm3/1000 strokes : +- 1.0 - Check tolerance + cm3/1000s. : +- 4.0
ANEROID/ALTITUDE COMPENSATOR TEST		+ cm3/1000S. : +- 4.0
		BREAKAWAY
SETTING		+ + Rack travel in mm : -1.00
Rated speed rpm Pressure hPa	: 500 : 700	+ Rated speed rpm : 1175 + Tolerance 1/min : +- 5
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: -500 : -1.10 : +- 0.20	STERTING FUEL DELIVERY  Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 150.0
Rated speed rpm	: 500	Tolerance - cm3/1000 strokes : +- 10.0
Pressure hPa rack travel mm Tolerance mm	: -0.80	+ Check tolerance + cm3/1000s. : +- 14.0
Pressure hPa rack travel mm Tolerance mm	: -0.35	LOW IDLE
START CUT-OUT		Rated speed rpm : 275 Del. quantity
Rated speed rpm Rated speed rpm		- cm3/1000 strokes : 24.0 - Tolerance - cm3/1000 strokes : + 3.0
Check		+ Check tolerance + cm3/1000S. : +- 6.0
speed 1/min	: > 80	+ Spreed +

Tolerance

cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 15.01.96 : ISO 4113

Combination No.

: 0 402 046 824

Injection pump

Pump designation : PES6P12OA32ORS3279

EP type number

: 0 412 026 758

Governor

Governer design. : RQ275/1050PA999-5

Governer no.

: 0 421 801 663

Cust. part No. : CCEP-5112B 66-175

Customer-spec. information

Customer

: RVI

: MIHR 062045 A/3 nctoM

Power KW

: 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar :

2.5

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm 3.55 : +- 0.05

Tolerance mm Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

: +- 1.50 Tolerance mm

Firing order

: 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel 10.50

Tolerance mm : +- 0.50

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm : 11.25

Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 158.0	Rated speed rpm : 710 guide sleeve
Tolerance cm3/1000 strokes : +- 1.0	travel mm : 6.00 Tolerance mm : +- 0.10
Check tolerance	Rated speed rpm : 1380 guide sleeve
cm3/1000s. : +- 4.0	travel mm : 11.50 Tolerance mm : +- 0.50
Spreed	
Tolerance cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000S. : 9.0	Rated speed rpm : 750
Rated speed rpm : 275	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rack travel in mm : -4.50 Tolerance mm : + 0.10	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 21.0	Rated speed rpm : 700 Aneroid pressure
Tolerance	+ hPa : 1000
cm3/1000 strokes : + 2.0 Check tolerance	Del. quantity cm3/1000 strokes : 158.0
cm3/1000S. : +- 5.0 Spreed	+ Tolerance + cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes : 8.0	Check tolerance cm3/1000s. : + 4.0
Check tolerance	Spreed
cm3/1000s. : 12.0	+ Tolerance + cm3/1000 strokes : 5.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance + cm3/1000S. : 9.0
WITH GOVERNOR	+
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 300	control lever
guide sleeve travel mm : 2.35	+ position degree : 274.0 + tolerance degree : +- 4.0
Tolerance mm : + 0.10	+ RATED SPEED
Rated speed rpm : 1126 guide sleeve	rack travel mm : -1.00
travel mm : 6.38	+ Rated speed rpm : 1138
Tolerance mm : +- 0.10	+ Tolerance 1/min : +- 8
Rated speed rpm : 1050	rack travel mm : -7.20 Rated speed rpm : 1245
guide sleeve travel mm : 6.00	Tolerance 1/min : +- 15
Tolerance mm : +- 0.10	rack travel mm : -10.75
Rated speed rpm : 582 guide sleeve	Tolerance mm : + 0.55 Rated speed rpm : 1350
travel mm : 5.14	The sea opeca ipin . 1000
Tolerance mm : +- 0.10	1
	Т

# LOW IDLE control lever position degree : 253.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 275 rack travel mm : -4.50: +- 0.10 Tolerance mm : -9.25 rack travel mm Rated speed rpm : 580 Tolerance 1/min : +- 20 : 200 Rated speed rpm CRT mm max. : < -3.00TORQUE CONTROL Rated speed rpm : 700 Rated speed rpm : 1050 Tolerance mm : $\leftarrow$ 0.10 ANEROID/ALTITUDE COMPENSATOR TEST SETTING Rated speed rpm : 500 Pressure hPa : 1000 MEASUREMENT Pressure hPa Rated speed rpm : 500 rack travel mm : -1.20 Tolerance mm : + 0.20 Rated speed rpm : 500 Pressure hPa : 220 rack travel mm : -0.45 Tolerance mm : +- 0.15 Pressure hPa : 160 rack travel mm : -0.85 Tolerance mm : +- 0.05

Rated speed rpm Rated speed rpm	: > 100 : < 195
Check speed 1/min Check speed 1/min	: > 80 : < 215
FUEL DELIVERY CHA	NRACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 114.0 : +- 1.0 : +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1138
STARTING FUEL DEL	IVERY
Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes	: 275 : 21.0

START CUT-OUT

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 25.01.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 496 001

Injection pump

Pump designation : PE6R120/720RS1502 EP type number : 0 411 426 002

Governor

Governer design. : RE31

: 0 421 890 200 Governer no.

Cust. part No. : 1556156

: -P07 v. 12/95

Customer-spec. information

Customer : VOLVO-TRUCK : TD 163 ES,EJ Motor

: 370.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Test nozzle holde

: 7 688 901 105 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 : 600 x length mm

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

: 5.40 : + 0.05 Prestroke mm

Tolerance mm

Check

tolerance mm  $: \leftarrow 0.10$ 

Rack travel in mm : 10.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0	+ Amplitude V : 1.4
	+ Tolerance V : +/- 0.6
Setting point	+ Check
(P, R and H pump)	† tolerance V : +/- 1.20
7.400	†
Uact V : 3.100 CRT mm : 13.00	+ Engine speed min-1: 600
Tolerance mm : +/- 0.05	+ Difference
Tolerance mm : +/- 0.05 Check	+ Amplitude to + Amplitude V : max.1.4
tolerance mm : +/- 0.10	T Amptitude v : max.r.4
toterance min . The D. 10	I
Check ∨alue	
(P, R and H pump)	(c) INJECTION PUMP WITH POSITIONER
	+
	+
Uact V : 1.700	+ FUEL DELIVERY CHARACTERISTICS
CRT mm : 6.15	†
Tolerance mm : +/- 0.25	+ Rated speed rpm : 950
Check	+ Uact V : 2.750
tolerance mm : +/- 0.30	Del. quantity
	+ cm3/1000 strokes : 295.0
Cathing maint	+ Tolerance + cm3/1000 strokes : +- 3.0
Setting point (M pump)	+ Check tolerance
(4 ballby	+ cm3/1000s. : +- 6.0
Uact V : 3.100	Spreed
Uact V : 3.100 CRT mm : 12.50	+ Tolerance
Tolerance mm : +/- 0.05	+ cm3/1000 strokes : 9.0
Check	+ Check tolerance
tolerance mm : +/- 0.10	+ cm3/1000s. : 13.0
	+
Check value	Rated speed rpm : 950
(M pump)	
	Del. quantity
Uact V : 1.700	+ cm3/1000 strokes : 163.0
CRT mm : 5.50	+ Tolerance
Tolerance mm : +/- 0.25	+ cm3/1000 strokes : +- 3.0
Check	+ Check tolerance
tolerance mm : +/- 0.30	+ cm3/1000s. : $+$ 6.0
Stop position	TEST POINT L1
Stop position	
Uact V : Value with	Rated speed rpm : 300
deenergised adjusting magnet	+ Uact V : 1.530
and control rod in	Tolerance Volt : +- 0.060
stop position.	+ Check tolerance
CRT mm : 0.75	+ Volt : + 0.060
Tolerance mm : +/- 0.25	+ Del. quantity
Check	+ cm3/1000 strokes : 20.0
tolerance mm : +/- 0.35	† Tolerance
	+ cm3/1000 strokes : + 3.0
FULL AREA OF LOAD	+ Spreed
ENGINE-SPEED SENSOR	+ Tolerance
(All P and R pumps not	cm3/1000 strokes : 7.0 Check tolerance
H and M pumps)	+ cm3/1000s. : 11.0
Test with control rod	I (11.0
in stop position	1
III SEUD PUSIEIUII	1
Engine speed min-1: 60	1
angine opeca min ii oo	ı
<b>740</b>	

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 25.01.96 : ISO 4113 Test oil

Combination No. : 0 403 546 023

Injection pump

Pump designation : PE6MW100/720RS1229

EP type number : 0 413 506 108

Governor

Governer design. : RQ250/1250MW158 Governer no. : 0 420 082 076

Cust. part No. :

Customer-spec. information

Customer : SNF

Motor : WD 612.95 : 191.0 Power KW

#### TEST BENCH REQUIREMENTS

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 600

x length mm :

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant. per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm 3.65 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.50 Tolerance

Check

: +- 0.75 tolerance \*NW

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.45

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 146.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. 4.0

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 7.5

E20

Rated speed rpm	: 250	Rack travel in mm : 20.00 Tolerance mm : +- 0.80
Rack travel in mm Tolerance mm Del. quantity		FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000 strokes Tolerance		Rated speed rpm : 1250 Aneroid pressure
cm3/1000 strokes Check tolerance		hPa : 1200  Del. quantity  1/6.0
cm3/1000S. Spreed Tolerance	: +- 4.5	- cm3/1000 strokes : 146.0 - Tolerance - cm3/1000 strokes : +- 1.0
cm3/1000 strokes Check tolerance		- Check tolerance - cm3/1000s. : + 4.0
cm3/1000s.	: 5.5	Spreed Tolerance
(B) SETTING OF IN WITH GOVERNOR	JECTION PUMP	+ cm3/1000 strokes : 4.0 + Check tolerance + cm3/1000s. : 7.5
		+
GUIDE SLEEVE TRAV		CONTROL LEVER
Rated speed rpm guide sleeve travel mm	: 250 : 1.43	t - control lever - position degree : 99.0
Tolerance mm	: +- 0.20	tolerance degree : +- 4.0
Rated speed rpm guide sleeve	: 1299	RATED SPEED
travel mm Tolerance mm	: 6.50 : +- 0.15	+ rack travel mm : 13.50 + Rated speed rpm : 1295 + Tolerance 1/min : +- 5
Rated speed rpm guide sleeve	: 1250	rack travel mm : 4.00
travel mm Tolerance mm	: 6.00 : + 0.10	Rated speed rpm : 1390 Tolerance 1/min : +- 15
Rated speed rpm	: 420	+ rack travel mm : 0.50 + Tolerance mm : +- 0.50
guide sleeve travel mm Tolerance mm	: 5.00 : +- 0.10	Rated speed rpm : 1500
Rated speed rpm	: 500	
guide sleeve travel mm	: 6.00	+ LOW IDLE
Tolerance mm Rated speed rpm	: +- 0.10 : 1480	control lever position degree : 76.0
guide sleeve travel mm	: 11.50	tolerance degree : +- 4.0
Tolerance mm	: +- 0.50	Testing:
GUIDE SLEEVE POSI	TION -	+ Rated speed rpm : 250 + rack travel mm : 9.20 + Tolerance mm : +- 0.10
Rated speed rpm	: 600	Rated speed rpm : 100

CRT mm min.	: > 10.00	+ Del. quantity + cm3/1000 strokes : 157.0 + Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 2.0 + Check tolerance
Rated speed rpm rack travel mm	: 1250 : 14.45	cm3/1000s. : +- 5.0 Spreed Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : 6.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 14.45	cm3/1000s. : 9.0  Aneroid pressure
		+ hPa : - + Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST		Del. quantity cm3/1000 strokes : 102.0
SETTING		<pre>+ Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance</pre>
Rated speed rpm	: 500	cm3/1000s. : +- 3.0
Pressure hPa rack travel mm Tolerance mm	: 1200	BREAKAWAY
MEASUREMENT		+ Rack travel in mm : 13.50 + Rated speed rpm : 1295
Pressure hPa Rated speed rpm rack travel mm	: 12.00	Tolerance 1/min : + 5
Tolerance mm		STARTING FUEL DELIVERY
Rated speed rpm		Rated speed rpm : 100
Pressure hPa rack travel mm Tolerance mm	: 13.65	+ Del. quantity + cm3/1000 strokes : 160.0 + Tolerance
Pressure hPa		+ cm3/1000 strokes : +- 5.0 + Check tolerance
rack travel mm Tolerance mm		+ cm3/1000s. : +- 8.0
START CUT-OUT		LOW IDLE
Rated speed rpm Rated speed rpm		Rated speed rpm : 250
Check	. > 100	Del. quantity cm3/1000 strokes : 21.0
speed 1/min Check	: > 100	Tolerance cm3/1000 strokes : + 2.0
speed 1/min	: < 200	+ Check tolerance + cm3/1000s. : +- 4.5 + Spreed
FUEL DELIVERY CHA	ARACTERISTICS	Tolerance cm3/1000 strokes : 3.5
Aneroid pressure hPa	: 1200	Check tolerance cm3/1000s. : 5.5
Rated speed rpm		+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.02.96 Test oil : ISO 4113

Combination No. : 0 402 746 994

Injection pump

Pump designation : PES6P12OA32ORS7344 EP type number : 0 412 726 914

Governor

Governer design. : RQV275...1000PA1161

Governer no. : 0 421 814 100

Cust. part No. : CCEP 5143A 66-231

Customer-spec. information

Customer : RVI

Motor : MIDR 062045 E/41

Power KW : 249.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.50 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 11.00 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : + 0.50

Start of delivery mark

 $^{\circ}$ NW after s.o.d. : -0.15 Tolerance : +- 0.50

Check

tolerance \*NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm : 12.60

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 282.0

		+ Rated speed rpm
Tolerance cm3/1000 strokes	: +- 1.0	guide sleeve travel mm Tolerance mm
Check tolerance cm3/1000s.	: +- 4.0	Rated speed rpm guide sleeve
Spreed Tolerance cm3/1000 strokes	: 5.0	travel mm Tolerance mm
Check tolerance cm3/1000s.	: 9.0	GUIDE SLEEVE POSIT
Rated speed rpm	: 300	Rated speed rpm Rack travel in mm
Del. quantity cm3/1000 strokes Tolerance	: 32.0	Tolerance mm
cm3/1000 strokes Check tolerance	: +- 2.0	FULL LOAD DELIVERY
cm3/1000s. Spreed Tolerance	: +- 5.0	Rated speed rpm Aneroid pressure hPa
cm3/1000 strokes Check tolerance	: 8.0	Del. quantity cm3/1000 strokes
cm3/1000s.	: 12.0	Tolerance cm3/1000 strokes
(B) SETTING OF IN	NJECTION PUMP	<ul> <li>Check tolerance</li> <li>cm3/1000S.</li> <li>Spreed</li> <li>Tolerance</li> <li>cm3/1000 strokes</li> </ul>
GUIDE SLEEVE TRAV	/EL	Check tolerance
Rated speed rpm guide sleeve		+
travel mm Tolerance mm	: 1.66 : +- 0.25	CONTROL LEVER
Rated speed rpm guide sleeve	: 1086	control lever position degree
travel mm Tolerance mm	: 8.09 : +- 0.25	tolerance degree
Rated speed rpm guide sleeve	: 793	RATED SPEED  rack travel mm
travel mm Tolerance mm	: 6.00 : +- 0.25	Rated speed rpm Tolerance 1/min
Rated speed rpm guide sleeve	: 343	rack travel mm : Rated speed rpm :
travel mm Tolerance mm	: 2.33 : + 0.25	Tolerance 1/min
Rated speed rpm	: 393	rack travel mm
guide sleeve travel mm Tolerance mm	: 2.95 : + 0.25	Rated speed rpm :

Tolerance mm	: +- 0.25
Rated speed rpm guide sleeve	: 1410
travel mm	: 11.50
Tolerance mm	: +- 0.50
GUIDE SLEEVE POSI	TION
Rated speed rpm	: 1235
Rack travel in mm Tolerance mm	: 11.70 : +- 1.30
FULL LOAD DELIVER	Y AT FULL LOAD STOP
Rated speed rpm Aneroid pressure	: 600
hPa Del. quantity	: 1000
cm3/1000 strokes	: 282.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
Spreed Tolerance	
cm3/1000 strokes Check tolerance	: 5.0
cm3/1000s.	: 9.0
CONTROL LEVER	
control lever	: 120.0
position degree tolerance degree	: +- 4.0
RATED SPEED	
rack travel mm Rated speed rpm	: -1.00 : 1080
Tolerance 1/min	: +- 5
rack travel mm Rated speed rpm	: -8.60 : 1215
Tolerance 1/min	: +- 15
rack travel mm	: -12.10 : +- 0.50
Tolerance mm Rated speed rpm	: 1300

500

3.72

:

:

LOW IDLE	
control lever position degree tolerance degree	: 65.0 : +- 4.0
Testing:	
Rated speed rpm	: 200
CRT mm max.	: < -5.50
Rated speed rpm	: 400
TORQUE CONTROL	
Rated speed rpm	: 600
Rated speed rpm Tolerance mm	: 1000 : ← 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : -3.40 : +- 0.30
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 320 : -2.65 : +- 0.15
Pressure hPa rack travel mm Tolerance mm	: 640 : -0.70 : +- 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 225
Check speed 1/min	; > 80

Check speed 1/min	; < 245
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: +- 3.0 : +- 6.0 : - : 500 : 122.0
BREAKAWAY  Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.25 : + 0.75 : 150.0 : + 15.0 : + 19.0
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 300 : 32.0 : +- 2.0 : +- 5.0

Spreed Tolerance

cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.02.96 Test oil : ISO 4113

Combination No. : 0 403 446 317

Injection pump

Pump designation : PES6MW100/320RS1214

: -1

EP type number : 0 413 406 224

Governor

Governer design. : RQV275...1250MW115K

Governer no. : 0 420 083 994

Cust. part No. :

Customer-spec. information

Customer : RVI

Motor : MIDR 060226 W

Power KW : 151.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 4.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 18.00 Tolerance mm : +- 1.50

Firing order : 1-5- 3- 6- 2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance :  $\leftarrow$  0.50

Check

tolerance \*NW : + 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 14.15
Tolerance mm : + 0.05
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 117.0

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance cm3/1000s. : +- 3.0	guide sleeve travel mm : 3.92
	Tolerance mm : +- 0.25
Spreed	m
Tolerance	Rated speed rpm : 1650
cm3/1000 strokes : 3.5	guide sleeve
<del>+</del>	travel mm : 13.50
Check tolerance +	Tolerance mm : +- 0.50
cm3/1000s. : 6.0	
+	
Rated speed rpm : 275	GUIDE SLEEVE POSITION
1	
1	Rated speed rpm : 1360
Rack travel in mm: -8.10	
Tolerance mm : + 0.10	Rack travel in mm : 10.00
Del. quantity	Tolerance mm : +- 2.70
cm3/1000 strokes : 21.0	TOTAL MAIN TOTAL CONTRACTOR OF THE PROPERTY OF
Tolerance	
cm3/1000 strokes : +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	TOLL LOAD DECIVERY AT TOLL LOAD STOP
cm3/1000s. : +- 4.5	Rated speed rpm : 1250
Spreed +.3	Aneroid pressure
Tolerance	hPa : 1000
cm3/1000 strokes : 3.5	Del. quantity
Check tolerance	cm3/1000 strokes : 117.0
	Tolerance
cm3/1000s. : 5.0 +	
<u>†</u>	cm3/1000 strokes : +- 1.0
(D) CETTING OF THURSTION DUMP	Check tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000s. : +- 3.0
WITH GOVERNOR +	Spreed
<del>†</del>	Tolerance
	cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAVEL	Check tolerance
+	
Rated speed rpm : 275	Check tolerance
Rated speed rpm : 275 + guide sleeve +	Check tolerance
Rated speed rpm : 275 guide sleeve travel mm : 1.00	Check tolerance cm3/1000s. : 6.0
Rated speed rpm : 275 + guide sleeve +	Check tolerance
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER
Rated speed rpm : 275 guide sleeve travel mm : 1.00	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER control lever
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER control lever
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : 4.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : 4.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : 4.0
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 924 guide sleeve travel mm : 6.77	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5  rack travel mm : -13.60
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 3.01	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : +- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : +- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : +- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : 4- 0.25  Rated speed rpm : 1344 guide sleeve travel mm : 9.99 Tolerance mm : 4- 0.25  Rated speed rpm : 924 guide sleeve travel mm : 6.77 Tolerance mm : 4- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 4- 0.25  Rated speed rpm : 2.39 Tolerance mm : 4- 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : 4- 0.25	Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 293.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1310 Tolerance 1/min : + 15  rack travel mm : -10.10 Rated speed rpm : 1470 Tolerance 1/min : + 5  rack travel mm : -13.60 Tolerance mm : + 0.50

F01

control lever       position degree       : 244.0         tolerance degree       : 4.0         Testing:       : 275         Rated speed rpm       : -8.10         Tolerance mm       : + 0.10         Rated speed rpm       : 200         CRT mm min.       : > -7.50         TORQUE CONTROL         Rated speed rpm       : 700         rack travel mm       : -0.80         Tolerance mm       : + 0.05         Rated speed rpm       : 700         rack travel mm       : -5.50         Tolerance mm       : + 0.10         Rated speed rpm       : 350         rack travel mm       : -1.60         Tolerance mm       : + 0.40         ANEROID/ALTITUDE         COMPENSATOR TEST         SETTING         Rated speed rpm       : 1250         Pressure hPa       : 1000         Tolerance mm       : + 0.05         MEASUREMENT         Pressure hPa       : 250         rack travel mm       : -3.00         Tolerance mm       : + 0.20         Rated speed rpm       : 1250         Pressure hPa       : 200         rack travel mm       : -2.		
Rated speed rpm : 275 rack travel mm : -8.10 Tolerance mm : + 0.10  Rated speed rpm : 200  CRT mm min. : > -7.50  TORQUE CONTROL  Rated speed rpm : 1250 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -0.80 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -5.50 Tolerance mm : + 0.10  Rated speed rpm : 350 rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 200 Pressure hPa : 200 Pressure hPa : 200 Pressure hPa : 200 Pressure hPa : 200 Pressure hPa : 200 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 201 Pressure hPa : 300	position degree tolerance degree	: 244.0 : +- 4.0
rack travel mm         : -8.10           Tolerance mm         : + 0.10           Rated speed rpm         : 200           CRT mm min.         : > -7.50           TORQUE CONTROL           Rated speed rpm         : 1250           Tolerance mm         : + 0.05           Rated speed rpm         : 700           rack travel mm         : -5.50           Tolerance mm         : + 0.10           Rated speed rpm         : 350           rack travel mm         : -1.60           Tolerance mm         : + 0.40           ANEROID/ALTITUDE           COMPENSATOR TEST           SETTING           Rated speed rpm         : 1250           Pressure hPa         : 1250           rack travel mm         : -3.00           Tolerance mm         : + 0.20           Rated speed rpm         : 1250           rack travel mm         : -3.00           Tolerance mm         : + 0.20           Rated speed rpm         : 200           rack travel mm         : -2.35           Tolerance mm         : + 0.15           Pressure hPa         : 0.15           Pressure hPa         : 0.15 <th>Testing:</th> <th></th>	Testing:	
TORQUE CONTROL  Rated speed rpm : 1250 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -0.80 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -5.50 Tolerance mm : + 0.10  Rated speed rpm : 350 rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15	rack travel mm	
TORQUE CONTROL  Rated speed rpm : 1250 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -0.80 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -5.50 Tolerance mm : + 0.10  Rated speed rpm : 350 rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 Tolerance mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : -2.35 Tolerance mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300  Pressure hPa : 200 Pressure hPa : 201 Pressure hPa : -2.35 Tolerance mm : + 0.15	Rated speed rpm	: 200
Rated speed rpm : 1250 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -0.80 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -5.50 Tolerance mm : + 0.10  Rated speed rpm : 350 rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	CRT mm min.	: > -7.50
Tolerance mm	TORQUE CONTROL	
Tolerance mm : -0.80 Tolerance mm : + 0.05  Rated speed rpm : 700 rack travel mm : -5.50 Tolerance mm : + 0.10  Rated speed rpm : 350 rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	, ,	
rack travel mm : -5.50 Tolerance mm : + 0.10  Rated speed rpm : 350 rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 rack travel mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 Rated speed rpm : 1250  Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	rack travel mm	: -0.80
rack travel mm : -1.60 Tolerance mm : + 0.40  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : -3.00 Tolerance mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	rack travel mm	: -5.50
COMPENSATOR TEST  SETTING  Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - 250 rack travel mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250 Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	rack travel mm	: -1.60
Rated speed rpm : 1250 Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : + 0.20  Rated speed rpm : 1250  Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	-	
Pressure hPa : 1000 Tolerance mm : + 0.05  MEASUREMENT  Pressure hPa : - Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : +- 0.20  Rated speed rpm : 1250  Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : +- 0.15  Pressure hPa : 300	SETTING	
Pressure hPa : - Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : +- 0.20  Rated speed rpm : 1250  Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : +- 0.15  Pressure hPa : 300	Pressure hPa	: 1000
Rated speed rpm : 1250 rack travel mm : -3.00 Tolerance mm : +- 0.20  Rated speed rpm : 1250  Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : +- 0.15  Pressure hPa : 300	MEASUREMENT	
Pressure hPa : 200 rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	Rated speed rpm rack travel mm	: -3.00
rack travel mm : -2.35 Tolerance mm : + 0.15  Pressure hPa : 300	Rated speed rpm	: 1250
	rack travel mm	: -2.35

Tolerance mm	: +- 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 200 : < 230
Check speed 1/min	: > 170
Check speed 1/min	: < 245
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa Rated speed rpm Del. quantity	: 1000 : 700
cm3/1000 strokes	: 116.0
Tolerance cm3/1000 strokes	: +- 1.5
Check tolerance cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 7.0
Aneroid pressure hPa Rated speed rpm	: 1000 : 700
Del. quantity cm3/1000 strokes	: 60.0
Tolerance cm3/1000 strokes	: +- 4.0
Check tolerance cm3/1000s.	: +- 7.5
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 78.0
cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: -1.00 : 1310 : + 15

# STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : +- 0.75
Del. quantity
cm3/1000 strokes : 95.0
Tolerance
cm3/1000 strokes : +- 10.0
Check tolerance
cm3/1000s. : +- 13.0

# LOW IDLE

275 Rated speed rpm Del. quantity cm3/1000 strokes : 21.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Check tolerance 5.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.02.96 Test oil : ISO 4113

Combination No. : 0 403 446 318

Injection pump

Pump designation : PES6MW100/320RS1214

: -1

EP type number : 0 413 406 224

Governor

Governer design. : RQV275...1250MW115

: -1K

Governer no. : 0 420 083 992

Cust. part No. :

Customer-spec. information

Customer : RVI

Motor : MIDR 060226 V

Power KW : 129.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0
Tolerance bar : + 1.0

Prestroke mm : 4.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 18.00 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.15
Tolerance mm : + 0.05

Tolerance mm : + 0.05
Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 112.0

Tolerance

cm3/1000 strokes : +- 1.0

F04

Check tolerance	+ guide sleeve
cm3/1000s. : +- 3.0	† travel mm : 4.01
	+ Tolerance mm : + 0.25
Spreed	† 5.1
Tolerance	+ Rated speed rpm : 1650
cm3/1000 strokes : 3.5	+ guide sleeve
Check tolerance	+ travel mm : 13.50 + Tolerance mm : +- 0.50
77.140.000	Toterance mm ; T= 0.50
cm3/1000S. : 6.0	
Rated speed rpm : 275	GUIDE SLEEVE POSITION
	+
	+ Rated speed rpm : 1460
Rack travel in mm : -7.50	†
Tolerance mm : + 0.10	+ Rack travel in mm : 10.00
Del. quantity	+ Tolerance mm : +- 2.70
cm3/1000 strokes : 22.0	†
Tolerance cm3/1000 strokes : +- 2.0	FULL LOAD DELIVERY AT FULL LCAD STOP
Check tolerance	T TOLL LOAD DELIVERY AT FOLL LOAD STOP
cm3/1000s. : +- 4.5	Rated speed rpm : 1250
Spreed	+ Aneroid pressure
Tolerance	+ hPa : 1000
cm3/1000 strokes : 3.5	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 112.0
cm3/1000s. : 5.0	+ Tolerance
	+ cm3/1000 strokes : +- 1.0
(B) SETTING OF INJECTION PUMP	+ Check tolerance + cm3/1000s. : +- 3.0
WITH GOVERNOR	· · · · · · · · · · · · · · · · · · ·
	± \nresn
WITH GOVERNOR	+ Spreed - Tolerance
WITH GOVERNOR	+ Spreed + Tolerance - + cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAVEL	Tolerance - cm3/1000 strokes : 3.5 - Check tolerance
GUIDE SLEEVE TRAVEL	Tolerance cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAVEL Rated speed rpm : 275	Tolerance - cm3/1000 strokes : 3.5 - Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve	Tolerance - cm3/1000 strokes : 3.5 - Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00	Tolerance cm3/1000 strokes: 3.5 Check tolerance cm3/1000S. : 6.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve	Tolerance - cm3/1000 strokes : 3.5 - Check tolerance
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314	Tolerance cm3/1000 strokes: 3.5 Check tolerance cm3/1000S. : 6.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : +- 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : +- 0.25  Rated speed rpm : 912	Tolerance cm3/1000 strokes: 3.5 Check tolerance cm3/1000S.: 6.0  CONTROL LEVER  control lever position degree: 292.0 tolerance degree: +- 4.0  RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 9.72 guide sleeve travel mm : 912 guide sleeve travel mm : 6.70	Tolerance cm3/1000 strokes: 3.5 Check tolerance cm3/1000S.: 6.0  CONTROL LEVER  control lever position degree: 292.0 tolerance degree: +- 4.0  RATED SPEED  rack travel mm: -1.00 Rated speed rpm: 1300
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve guide sleeve : 390 guide sleeve	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5
Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Toterance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5  rack travel mm : -12.60
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : + 0.25  Rated speed rpm : 912 guide sleeve travel mm : 6.70 Tolerance mm : + 0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5  rack travel mm : -1.60 Tolerance mm : -12.60 Tolerance mm : +- 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : 9.71 Tolerance mm : 912 guide sleeve travel mm : 6.70 Tolerance mm : 4.025  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000S. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5  rack travel mm : -12.60
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : 9.71 Tolerance mm : 912 guide sleeve travel mm : 6.70 Tolerance mm : 4.0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 2.90	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5  rack travel mm : -1.60 Tolerance mm : -12.60 Tolerance mm : +- 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : + 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : 9.71 Tolerance mm : 912 guide sleeve travel mm : 6.70 Tolerance mm : 4.025  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : + 0.25  Rated speed rpm : 2.39 Tolerance mm : + 0.25	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5  rack travel mm : -1.60 Tolerance mm : -12.60 Tolerance mm : +- 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 275 guide sleeve travel mm : 1.00 Tolerance mm : +- 0.25  Rated speed rpm : 1314 guide sleeve travel mm : 9.71 Tolerance mm : 9.71 Tolerance mm : 912 guide sleeve travel mm : 6.70 Tolerance mm : 4.0.25  Rated speed rpm : 390 guide sleeve travel mm : 2.39 Tolerance mm : +- 0.25  Rated speed rpm : 2.39 Tolerance mm : 440 guide sleeve travel mm : 2.90	Tolerance cm3/1000 strokes : 3.5 Check tolerance cm3/1000s. : 6.0  CONTROL LEVER  control lever position degree : 292.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1300 Tolerance 1/min : +- 15  rack travel mm : -9.10 Rated speed rpm : 1455 Tolerance 1/min : +- 5  rack travel mm : -1.60 Tolerance mm : -12.60 Tolerance mm : +- 0.50

F05

		‡	Tolerance mm	: +- 0.05
control lever position degree tolerance degree		‡	START CUT-OUT	
Testing:		‡	Rated speed rpm Rated speed rpm	
Rated speed rpm rack travel mm Tolerance mm	: 275 : −7.50 : ← 0.10	+	Check speed 1/min Check	: > 170
Rated speed rpm	: 200	‡	speed 1/min	: < 245
CRT mm min.	: < -6.90	Ī	FUEL DELIVERY CHA	ARACTERISTICS
TORQUE CONTROL		<del></del>	Aneroid pressure hPa Rated speed rpm	: 1000 : 700
Rated speed rpm Tolerance mm	: 1250 : ← 0.05	‡	Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm	: 700 : -0.90	-	Tolerance cm3/1000 strokes Check tolerance	: +- 1.5
Tolerance mm	: +- 0.05	+	cm3/1000s. Spreed	: +- 4.0
Rated speed rpm rack travel mm Tolerance mm		‡	Tolerance cm3/1000 strokes Check tolerance	: 5.0
Rated speed rpm			cm3/1000s.	: 7.0
rack travel mm Tolerance mm		+	Aneroid pressure hPa Rated speed rpm Del. quantity	: 1000 : 700
ANEROID/ALTITUDE COMPENSATOR TEST		1	cm3/1000 strokes Tolerance	: 64.0
		+	cm3/1000 strokes Check tolerance	
SETTING	. 1250	‡	cm3/1000s.	: +- 7.5
Rated speed rpm Pressure hPa Tolerance mm		Ī	Aneroid pressure hPa Rated speed rpm	: - : 1250
MEASUREMENT		‡	Del. quantity cm3/1000 strokes	
Pressure hPa	: -	+	Tolerance cm3/1000 strokes	: + 1.0
Rated speed rpm rack travel mm Tolerance mm		Ţ	Check tolerance cm3/1000s.	: +- 3.0
Rated speed rpm	: 1250	†	BREAKAWAY	
Pressure hPa rack travel mm Tolerance mm	: 120 : -1.50 : +- 0.15		Rack travel in mm Rated speed rpm Tolerance 1/min	: 1300
Pressure hPa rack travel mm	: 240 : -0.50	+	TOCCI GITTOC 17 III III	

START CUT-OUT	
	200
	: > 200 : < 230
Rated speed rpm	: \ 250
Check	
speed 1/min	: > 170
Check speed 1/min	: < 245
speed minn	. \ 243
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure	
hPa	: 1000
Rated speed rpm	: 700
Del. quantity cm3/1000 strokes	: 112.0
Tolerance	. 112.0
cm3/1000 strokes	: +- 1.5
Check tolerance	
cm3/1000s. Spreed	: +- 4.0
Tolerance	
cm3/1000 strokes	: 5.0
Check tolerance	
cm3/1000s.	: 7.0
Aneroid pressure	
nPa	: 1000
Rated speed rpm	; 700
Del. quantity	
cm3/1000 strokes	: 64.0
Tolerance cm3/1000 strokes	: +- 4.0
Check tolerance	110
cm3/1000s.	: +- 7.5
Inonoid procesure	
Aneroid pressure nPa	• -
Rated speed rpm	1250
el. quantity	
cm3/1000 strokes	: 89.0
Tolerance cm3/1000 strokes	: + 1.0
Check tolerance	. 1.0
cm3/1000s.	: +- 3.0
BREAKAWAY	
ALCONOMA I	
	4.00
Rack travel in mm Rated speed rpm	: -1.00 : 1300
area speed thii	: 1300

### STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.25
Tolerance mm : + 0.75
Del. quantity
cm3/1000 strokes : 95.0
Tolerance
cm3/1000 strokes : + 10.0
Check tolerance
cm3/1000s. : + 13.0

### LOW IDLE

275 Rated speed rpm : Del. quantity cm3/1000 strokes : 22.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance cm3/1000 strokes : 3.5 Sheck tolerance cm3/1000s. 5.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 14.02.96 Edition Test oil : ISO 4113

Combination No. : 0 403 446 319

Injection pump

Pump designation : PES6MW100/320RS1216

: -1

EP type number : 0 413 406 223

Governor

Governer design. : RQV275...1250MW124K

Governer no. : 0 420 083 989

Cust. part No. :

Customer-spec. information

Customer : RVI

Motor : MIDR 060226 U

Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0 Tolerance bar : +- 1.0

Prestroke mm : 4.25

: +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 13.00

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.25 Tolerance mm : +- 0.05

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 106.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s. : +- 3.0	guide sleeve travel mm : 3.92 Tolerance mm : +- 0.25
Spreed	
Tolerance	Rated speed rpm : 1650
cm3/1000 strokes : 3.5	guide sleeve
-	travel mm : 13.50
Check tolerance cm3/1000s. : 6.0	Tolerance mm : +- 0.50
+	
Rated speed rpm : 275	GUIDE SLEEVE POSITION
+	Rated speed rpm : 1460
Rack travel in mm: -7.20 +	
Tolerance mm : +- 0.20 +	Rack travel in mm : 10.00
Del. quantity +	Tolerance mm : +- 2.70
cm3/1000 strokes : 21.0 +	
Tolerance	
cm3/1000 strokes : +- 2.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	
cm3/1000s. : +- 4.5	Rated speed rpm : 1250
Spreed	Aneroid pressure
Tolerance	hPa : -
cm3/1000 strokes : 3.5	Del. quantity
Check tolerance	cm3/1000 strokes : 106.0
cm3/1000s. : 5.0	Tolerance
1	cm3/1000 strokes : +- 1.0
$\mathbf{I}$	Check tolerance
(B) SETTING OF INJECTION PUMP	cm3/1000s. : +- 3.0
WITH GOVERNOR	Spreed
WITH GOVERNOR	Tolerance
Ť	cm3/1000 strokes : 3.5
CHARE CLEENE TOAVEL	Check tolerance
GUIDE SLEEVE TRAVEL	
7	cm3/1000S. : 6.0
Rated speed rpm : 275	
guide sleeve	
travel mm : 1.00	CONTROL LEUED
Tolerance mm : + 0.25	CONTROL LEVER
17//	
Rated speed rpm : 1344	control lever
guide sleeve	position degree : 292.0
travel mm : 9.99	tolerance degree : +- 4.0
Tolerance mm : + 0.25	DATES OBEES
<b>T</b>	RATED SPEED
Rated speed rpm : 924	4.00
guide sleeve +	rack travel mm : -1.00
travel mm : 6.77	Rated speed rpm : 1305
Tolerance mm : + 0.25 +	Tolerance 1/min : +- 15
Rated speed rpm : 390 +	rack travel mm : -9.25
guide sleeve +	Rated speed rpm : 1460
travel mm : 2.39 +	Tolerance 1/min : +- 5
Tolerance mm : + 0.25	
+	rack travel mm : -12.70
Rated speed rpm : 440	Tolerance mm : +- 0.50
guide sleeve	Rated speed rpm : 1600
travel mm : 3.01	
Tolerance mm : + 0.25	
4	
Rated speed rpm : 550	LOW IDLE

F09

		† Tolerance
control loven		+ cm3/1000 strokes : 5.0
control lever position degree	· 2/5 በ	+ Check tolerance + cm3/1000s. : 7.0
tolerance degree		I (m5/10003 /.0
toterante degree	• • •••	Aneroid pressure
Testing:		hPa : -
		+ Rated speed rpm : 700
Rated speed rpm	: 275	→ Del. quantity
rack travel mm	: -7.20	+ cm3/1000 strokes : 57.0
Tolerance mm	: +- 0.20	+ Tolerance
	200	+ cm3/1000 strokes : +- 4.0
Rated speed rpm	: 200	Check tolerance
CRT mm min.	. >4 40	cm3/1000s. : +- 7.5
CKI mm miri.	. > -0.00	Ī
		BREAKAWAY
TORQUE CONTROL		
		+
Rated speed rpm		├ Rack travel in mm : -1.00
Tolerance mm	: +- 0.05	+ Rated speed rpm : 1305
		+ Tolerance 1/min : +- 15
Rated speed rpm		†
rack travel mm	: -1.35	†
Tolerance mm	: +- 0.05	+ STARTING FUEL DELIVERY
Rated speed rpm	• 700	T STARTING FUEL DELIVERT
rack travel mm		Rated speed rpm : 100
Tolerance mm		rack travel mm : 20.25
rocci arroc mm		+ Tolerance mm : + 0.75
Rated speed rpm	: 350	+ Del. quantity
rack travel mm Tolerance mm	: 350 : -2.40	+ cm3/1000 strokes : 95.0
Tolerance mm	: +- 0.40	† Tolerance
		+ cm3/1000 strokes : +- 10.0
		├ Check tolerance
OTANT 0117 0117	······································	
START CUT-OUT		†
Datad spand spm	: > 150	Ţ
Rated speed rpm Rated speed rpm		
waten sheen thill	250	LOW IDLE
Check		<del> </del>
	: > 130	Rated speed rpm : 275
Check		+ Del. quantity
speed 1/min	: < 245	- cm3/1000 strokes : 21.0
		+ Tolerance
FILE ARE TURNS CO.	DACTEDIOTICS	
FUEL DELIVERY CHA	RACTERISTICS	+ Check tolerance + cm3/1000s. : +- 4.5
Ananaid anagaura		+ cm3/1000s. : +- 4.5 + Spreed
Aneroid pressure hPa	• –	Tolerance
Rated speed rpm	700	cm3/1000 strokes : 3.5
Del. quantity		Check tolerance
cm3/1000 strokes	: 95.0	+ cm3/1000s. : 5.0
Tolerance		+
cm3/1000 strokes	: +- 1.5	+
Check tolerance		
cm3/1000s.	: +- 4.0	†
Spreed		+ End of test specification sheet
		+

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 15.02.96 Edition Edition : 15.02.96

Test oil : 150-4113

Combination No. : 0 402 046 870

Injection pump

Pump designation : PES6P120A320RS3303

: -1 EP type number : 0 412 026 782

Governor

Governer design. : RQV275...1050PA1038

: -1K

: 0 421 815 478 Governer no.

Cust. part No. : CCEP-5129D 66-195

Customer-spec. information

Customer : RVI
Motor : MIDR 062045 J/3 Motor

Power KW : 168.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C ÷ 2.0 Tolerance °C

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 115 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

: 208.5 bar

Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm :  $\leftarrow$  0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

÷ + 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

\*NW after s.o.d. : -0.18

: +- 0.50 Tolerance

Check

tolerance \*NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

	40.70	+ guide sleeve
Rack travel in mm		+ travel mm : 2.38
Tolerance mm	: +- 0.05	+ Tolerance mm : +- 0.25
		†
Del. quantity		+ Rated speed rpm : 387
cm3/1000 strokes	: 159.0	+ guide sleeve
		+ travel mm : 3.12
Tolerance		+ Tolerance mm : $+$ 0.25
cm3/1000 strokes	: +- 1.0	+
		+ Rated speed rpm : 440
Check tolerance		+ guide sleeve
cm3/1000s.	: +- 4.0	+ travel mm : 3.94
		+ Tolerance mm : +- 0.25
Spreed		+
Tolerance		+ Rated speed rpm : 1530
cm3/1000 strokes	: 5.0	+ guide sleeve
		† travel mm : 13.50
Check tolerance	And the state of t	+ Tolerance mm : +- 0.50
cm3/1000s.	: 9.0	100000000000000000000000000000000000000
(1137 13333)	. 7.0	
Rated speed rpm	: 275	GUIDE SLEEVE POSITION
Raced speed rpm	. 213	T GOIDE SEEEVE POSITION
		Rated speed rpm : 1350
Rack travel in mm	n: -5.30	Rated speed (pill . 1550
	: +- 0.20	Rack travel in mm : 9.30
Tolerance mm	: +- 0.20	
Del. quantity	. 70.0	Tolerance mm : +- 1.50
cm3/1000 strokes	: 30.0	†
Tolerance	. 2.2	
cm3/1000 strokes	: +- 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance		+
Check tolerance cm3/1000s.	: +- 5.0	Rated speed rpm : 1050
Check tolerance cm3/1000s. Spreed		Rated speed rpm : 1050 Aneroid pressure
Check tolerance cm3/1000S. Spreed Tolerance	: +- 5.0	Rated speed rpm : 1050 Aneroid pressure hPa : -
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 5.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 5.0 : 8.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes	: +- 5.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 5.0 : 8.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: +- 5.0 : 8.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	: ← 5.0 : 8.0 : 12.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN	: ← 5.0 : 8.0 : 12.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: ← 5.0 : 8.0 : 12.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN	: ← 5.0 : 8.0 : 12.0	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR	: +- 5.0 : 8.0 : 12.0 JECTION PUMP	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN	: +- 5.0 : 8.0 : 12.0 JECTION PUMP	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
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Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve	: ← 5.0 : 8.0 : 12.0 DECTION PUMP	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF INWITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm	: ← 5.0 : 8.0 : 12.0 SJECTION PUMP  VEL  : 275  : 1.29	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0
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Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm	: ← 5.0 : 8.0 : 12.0 SJECTION PUMP  VEL  : 275  : 1.29	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  CONTROL LEVER control lever
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Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm	: +- 5.0 : 8.0 : 12.0 NJECTION PUMP  VEL  : 275  : 1.29 : +- 0.20  : 1143  : 9.05	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  CONTROL LEVER control lever
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV  Rated speed rpm guide sleeve travel mm Tolerance mm  Rated speed rpm guide sleeve guide sleeve travel mm	: ← 5.0 : 8.0 : 12.0 NJECTION PUMP  VEL  : 275  : 1.29 : ← 0.20  : 1143	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  CONTROL LEVER  control lever position degree : 59.0 tolerance degree : +- 4.0
Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Tolerance mm Tolerance mm	: +- 5.0  : 8.0 : 12.0  DJECTION PUMP  /EL : 275 : 1.29 : +- 0.20 : 1143 : 9.05 : +- 0.15	Rated speed rpm : 1050 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  CONTROL LEVER  control lever position degree : 59.0 tolerance degree : +- 4.0  control lever
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Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm	: ← 5.0  : 8.0  : 12.0  NJECTION PUMP  VEL  : 275  : 1.29 : + 0.20 : 1143  : 9.05 : ← 0.15 : 742 : 6.16	Rated speed rpm : 1050  Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0  Tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  CONTROL LEVER  control lever position degree : 59.0 tolerance degree : 4.0  control lever position degree : 294.0 tolerance degree : + 4.0
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Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s.  (B) SETTING OF IN WITH GOVERNOR  GUIDE SLEEVE TRAV Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Tolerance mm Rated speed rpm guide sleeve travel mm Rated speed rpm guide sleeve travel mm	: ← 5.0  : 8.0  : 12.0  NJECTION PUMP  VEL  : 275  : 1.29 : + 0.20 : 1143  : 9.05 : ← 0.15 : 742 : 6.16	Rated speed rpm : 1050  Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 159.0  Tolerance cm3/1000s. : + 4.0  Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  CONTROL LEVER  control lever position degree : 59.0 tolerance degree : 4.0  control lever position degree : 294.0 tolerance degree : + 4.0

Rated speed rpm	. 1110	1
Tolerance 1/min	: +- 5	FUEL DEL TUEDY CHARACTERISTICS
rack travel mm Rated speed rpm Tolerance 1/min	: 1220	FUEL DELIVERY CHARACTERISTICS  Aneroid pressure  hPa : -  Rated speed rpm : 700
rack travel mm Tolerance mm Rated speed rpm	: -10.50 : +- 0.50 : 1350	Del. quantity cm3/1000 strokes : 151.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance
LOW IDLE		
control lever position degree tolerance degree control lever position degree tolerance degree	: +- 4.0	BREAKAWAY  Rack travel in mm: -1.00 Rated speed rpm: 1110 Tolerance 1/min: +- 5
Testing:		STARTING FUEL DELIVERY
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: -5.30 : +- 0.20	Rated speed rpm : 100  Del. quantity  cm3/1000 strokes : 135.0  Tolerance  cm3/1000 strokes : + 15.0
CRT mm max.		Check tolerance : +- 19.0
Rated speed rpm	: 330	<del> </del>
TORQUE CONTROL		LOW IDLE
Rated speed rpm	: 1050	Rated speed rpm : 275 Del. quantity
Rated speed rpm rack travel mm Tolerance mm	: 700 : -1.00 : +- 0.10	cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : +- 2.0
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.50 : +- 0.20	Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance
		cm3/1000 strokes : 8.0 Check tolerance
START CUT-OUT		+ cm3/1000s. : 12.0
Rated speed rpm Rated speed rpm	: > 165 : < 235	
Check speed 1/min Check speed 1/min	: > 145 : < 245	End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.02.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 877

Injection pump

Pump designation : PES6P120A320RS3337

: -1

EP type number : 0 412 026 772

Governor

Governer design. : RQV300...1250PA1149

: -2K

: 0 421 815 504 Governer no.

Cust. part No. : CCEP 5158 66-218

Customer-spec. information

Customer : RVI

Motor : MIDR 06-02-26 V4

: 133.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.15 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300 Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

\*NW after s.o.d. : -0.35 Tolerance :  $\leftarrow$  0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.60

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 150.5	+ Rated speed rpm : 1600
Tolerance cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 4.0	GUIDE SLEEVE POSITION
Spreed	Rated speed rpm : 1400
Tolerance cm3/1000 strokes : 5.0	+ Rack travel in mm : 11.60 + Tolerance mm : +- 2.00 +
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rpm : 1250 Aneroid pressure
Rack travel in mm : -8.30	+ hPa : 1000 + Del. quantity
Tolerance mm : +- 0.10	+ cm3/1000 strokes : 150.5 + Tolerance
Del. quantity cm3/1000 strokes : 26.0	+ cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes : +- 2.0	+ Check tolerance + cm3/1000s. : +- 4.0
Check tolerance cm3/1000S. : +- 5.0	+ Spreed + Tolerance
Spreed	+ cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : 8.0	+ Check tolerance + cm3/1000s. : 9.0
Check tolerance cm3/1000S. : 12.0	<u> </u>
. 72.0	
(B) SETTING OF INJECTION PUMP	+ CONTROL LEVER
WITH GOVERNOR	control lever
	position degree : 293.0
GUIDE SLEEVE TRAVEL	+ tolerance degree : +- 4.0
Rated speed rpm : 300	RATED SPEED
guide sleeve	rack travel mm : -1.00
travel mm : 1.31	Rated speed rpm : 1296
Tolerance mm : ← 0.20	† Tolerance 1/min : + 5
Rated speed rpm : 1311	rack travel mm : -8.60
guide sleeve	Rated speed rpm : 1425
travel mm : 9.80 Tolerance mm : +- 0.15	† Tolerance 1/min : +- 15
Total ance min	rack travel mm : -12.10
Rated speed rpm : 868 guide sleeve	+ Tolerance mm : +- 0.50 + Rated speed rpm : 1550
travel mm : 5.97	+
Tolerance mm : +- 0.25	<u> </u>
Rated speed rpm : 510 guide sleeve	FCM IDFE
travel mm : 3.59	†
Tolerance mm : +- 0.25	+ control lever + position degree : 241.0

tolerance degree : +- 4.	
Instings	+ speed 1/min : > 145 + Check
Testing:	+ speed 1/min : < 245
Rated speed rpm : 300	1
rack travel mm : -8.3 Tolerance mm : +- 0.1	0
Tolerance mm : +- 0.1	O † FUEL DELIVERY CHARACTERISTICS
Rated speed rpm : 200	Aneroid pressure
Nated Speed Poin . 200	hPa : 1000
CRT mm min. $: < 7.3$	
Dated aread area /00	+ Del. quantity + cm3/1000 strokes : 126.0
Rated speed rpm : 400	Tolerance
TORQUE CONTROL	+ Check tolerance
0.4.1	cm3/1000s. : +- 6.0
Rated speed rpm : 1250	Aneroid pressure
Rated speed rpm : 850	+ hPa : -
Rated speed rpm : 850 rack travel mm : -1.7 Tolerance mm : + 0.1	Rated speed rpm : 1000
Tolerance mm : +- 0.1	5 Del. quantity
Pated speed rpm · 350	cm3/1000 strokes : 124.5 + Tolerance
Rated speed rpm : 350 rack travel mm : -2.2 Tolerance mm : +- 0.3	0 + cm3/1000 strokes : +- 1.0
Tolerance mm : +- 0.3	O Check tolerance
	cm3/1000s. : + 4.0
ANEROID/ALTITUDE	
COMPENSATOR TEST	BREAKAWAY
	†
SETTING	Rack travel in mm : -1.00
	+ Rated speed rpm : 1296
Rated speed rpm : 1250 Pressure hPa : 1000	Tolerance 1/min : +- 5
Pressure hPa : 1000	İ
MEASUREMENT	
	STARTING FUEL DELIVERY
Pressure hPa : - Rated speed rpm : 1250	+ Rated speed rpm : 100
rack travel mm : -2.0	
Tolerance mm : +- 0.2	cm3/1000 strokes : 108.0
4050	+ Tolerance
Rated speed rpm : 1250	+ cm3/1000 strukes : +- 15.0 + Check tolerance
Pressure hPa : 280	cm3/1000s. : +- 19.0
rack travel mm : -1.2	) <del> </del>
Tolerance mm : $\leftarrow$ 0.1	) +
Pressure hPa : 360	
rack travel mm : -0.6	) LOW IDLE
Tolerance mm : +- 0.0	5 +
	Rated speed rpm : 300
START CUT-OUT	Del. quantity
5 (AK) 001 001	+ Tolerance
Rated speed rpm : > 16	cm3/1000 strokes : +- 2.0
Rated speed rpm : < 22	theck tolerance
	+ cm3/1000s. : +- 5.0

Spreed

Tolerance : 8.0 Check tolerance cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 15.02.96 Test oil : ISO 4113

Combination No. : 0 402 946 010

Injection pump

Pump designation : PES6P120A320RS8028

EP type number : 0 412 926 021

Governor

Governer design. : RQV275...1175PA1101K

Governer no. : 0 421 815 982

Cust. part No. : CCEP 5133 A 66-193

Customer-spec. information

Customer : RVI

Motor : MIDR 060226 M51

Power KW : 158.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5
Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.00 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 13.00 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

 $^{\circ}$ NW after s.o.d. : -0.15

Tolerance : +- 0.50

Check

tolerance °NW : + 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

mm : 21.00

and maximum rack

travel : 12.30 Difference \* CS : 2.00

BASIC SETTING

Datad aread was	. 1175	1	
Rated speed rpm	: 1175	Rated speed rpm	: 389
		+ guide sleeve	
Rack travel in m		+ travel mm	: 2.39
Tolerance mm	: +- 0.05	† Tolerance mm	: +- 0.20
Del. quantity		Rated speed rpm	: 439
cm3/1000 strokes	: 268.0	+ guide sleeve	
	man theoretic train name pain, aide come la completa que partir de come train de come come que la come que come que	+ travel mm	: 3.01
Tolerance cm3/1000 strokes	: + 1.0	† Tolerance mm	: +- 0.20
CIIIDA LODO 211 OKES	1.0	Rated speed rpm	: 550
Check tolerance		+ guide sleeve	
cm3/1000s.	: +- 4.0	+ travel mm	: 3.92
Spreed		Tolerance mm	: +- 0.20
Tolerance		Rated speed rpm	: 1650
cm3/1000 strokes	: 5.0	+ guide sleeve	
		+ travel mm	: 13.50
Check tolerance cm3/1000s.	: 9.0	Tolerance mm	: +- 0.50
cms/ ruuus.	: 9.0	I	
Rated speed rpm	: 275	GUIDE SLEEVE POSI	TION
		t Bated around arm	. 1/20
Rack travel in m	m: -7.30	Rated speed rpm	: 1430
Tolerance mm	: +- 0.10	Rack travel in mm	: 11.20
Del. quantity		† Tolerance mm	: +- 2.00
cm3/1000 strokes Tolerance	: 42.0	†	
cm3/1000 strokes	: +- 2.0	FULL LOAD DELIVER	Y AT FULL LOAD STOP
Check tolerance		+	
cm3/1000s.	: +- 6.0	+ Rated speed rpm	: 1175
Spreed Tolerance		+ Aneroid pressure + hPa	: 1600
cm3/1000 strokes	: 8.0	Del. quantity	. 1000
Check tolerance		+ cm3/1000 strokes	: 268.0
cm3/1000s.	: 12.0	+ Tolerance	4.0
		+ cm3/1000 strokes + Check tolerance	: +- 1.0
(B) SETTING OF IN	NJECTION PUMP	- cm3/1000s.	: +- 4.0
WITH GOVERNOR	TO 2012 0111	Spreed	
		Tolerance	F 0
GUIDE SLEEVE TRAN	UFI	- + cm3/1000 strokes - Check tolerance	: 5.0
COINT SECTIVE IKA	/ L. L.	+ cm3/1000s.	: 9.0
Rated speed rpm	: 275	+	- <del>-</del>
guide sleeve	4 04	+	
travel mm Tolerance mm	: 1.01 : +- 0.10	CONTROL LEVER	
ioceraine man	0.10	T CONTROL LEVER	
Rated speed rpm	: 1230	control lever	
guide sleeve	A AF	+ position degree	
travel mm	: 8.95 : +- 0.10	tolerance degree	: +- 4.0
Tolerance mm	; <del></del> 0.10	T RATED SPEED	
Rated speed rpm	: 877	+	
guide sleeve		rack travel mm	
travel mm	: 6.51	Rated speed rpm Tolerance 1/min	
Tolerance mm	: +- 0.20	T Toterance Timin	, — 15
-40			

rack travel mm Rated speed rpm Tolerance 1/min rack travel mm Tolerance mm Rated speed rpm	: +- 5 : -13.20 : +- 0.55
LOW IDLE  control lever position degree tolerance degree	
Testing: Rated speed rpm rack travel mm Tolerance mm	: 275 : -7.30 : +- 0.10
Rated speed rpm CRT mm max. Rated speed rpm	: < -6.40
TORQUE CONTROL Rated speed rpm	: 1175
Rated speed rpm rack travel mm Tolerance mm	: -1.55 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 350 : -2.80 : + 0.25
ANEROID/ALTITUDE COMPENSATOR TEST	
Rated speed rpm Pressure hPa	: 1175 : 1600
MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : -5.40 : +- 0.20

Rated speed rpm	: 1175
Pressure hPa rack travel mm Tolerance mm	: 320 : -4.70 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 560 : -2.95 : +- 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	
Check speed 1/min Check	: > 155
speed 1/min	: < 260
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1600 : 650
Del. quantity cm3/1000 strokes Tolerance	: 260.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s.	: ← 6.0
Aneroid pressure hPa Rated speed rpm	: – : 500
Del. quantity cm3/1000 strokes Tolerance	: 148.0
cm3/1000 strokes Check tolerance	: +- 1.0
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity	: 100
cm3/1000 strokes	: 100.0

Tolerance cm3/1000 strokes	: +-	10.0
Check tolerance		
cm3/1000s.	; +-	14.0

# LOW IDLE

Rated speed rpm Del. quantity	:	275
cm3/1000 strokes	:	42.0
Tolerance cm3/1000 strokes	: +-	2.0
Check tolerance cm3/1000s.	: +-	6.0
Spreed	•	0.0
Tolerance cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 22.02.96 Test oil : ISO 4113

Combination No. : 0 402 746 986

Injection pump

Pump designation : PES6P120A720RS7224

: -2

EP type number : 0 412 726 893

Governor

Governer design. : RQ275/1050PA1021-3

Governer no. : 0 421 801 677

Cust. part No. :

Customer—spec. information
Customer : IVECO-UNIC

Motor : 8460.41.731

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. L/h : 140 Tolerance L/h : +- 20.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.15 Tolerance mm : + 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +-0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Check

tolerance °NW : +- 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 12.75 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 223.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Tolerance cm3/1000 strokes : +- 1.0	cm3/1000s. : 9.0
Check tolerance cm3/1000s. : +- 4.0	RATED SPEED
Spreed Tolerance	+ rack travel mm : 11.70 + Rated speed rpm : 1103 + Tolerance 1/min : +- 8
cm3/1000 strokes : 5.0	rack travel mm : 4.00
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1175 Tolerance 1/min : +- 15
Rated speed rpm : 275	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1350
Rack travel in mm : 5.00 Tolerance mm : + 0.10 Del. quantity	†
cm3/1000 strokes : 23.0 Tolerance	LOW IDLE
cm3/1000 strokes : +- 3.0 Check tolerance	control lever
cm3/1000s. : +- 6.0 Spreed	position degree : 74.0 tolerance degree : + 4.0
Tolerance cm3/1000 strokes : 8.0 Check tolerance	Testing:
cm3/1000s. : 12.0	Rated speed rpm : 275 rack travel mm : 5.00
(B) SETTING OF INJECTION PUMP	+ Tolerance mm : + 0.10
WITH GOVERNOR	+ rack travel mm : 2.00 + Rated speed rpm : 355 + Tolerance 1/min : +- 20
GUIDE SLEEVE POSITION	Rated speed rpm : 100
Rated speed rpm : 600	CRT mm min. : > 6.50
Rack travel in mm : 20.00 Tolerance mm : +- 0.80	TORQUE CONTROL
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1050 rack travel mm : 12.75
Rated speed rpm : 1050 Aneroid pressure	Tolerance mm : +- 0.05  Rated speed rpm : 550
hPa : 1200 Del. quantity	rack travel mm : 12.80 Tolerance mm : +- 0.10
cm3/1000 strokes : 223.0 - Tolerance	
cm3/1000 strokes : + 1.0 - Check tolerance cm3/1000s. : + 4.0	ANEROID/ALTITUDE COMPENSATOR TEST
Spreed	SETTING

Rated speed rpm	
Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 12.75 : +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 7.65 : +- 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 290 : 8.90 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 580 : 11.35 : +- 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 195
Check speed 1/min Check speed 1/min	: > 80 : < 215
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: 1200 : 550
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 270.0 : +- 4.0 : +- 7.0

Rack travel in mm Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100
Del. quantity cm3/1000 strokes	: 135.0
Tolerance cm3/1000 strokes	: +- 15.0
Check tolerance cm3/1000s.	: +- 19.0
LOW IDLE	
Rated speed rpm Del. quantity	: 275
cm3/1000 strokes Tolerance	: 23.0
cm3/1000 strokes Check tolerance	: +- 3.0
cm3/1000s. Spreed	: +- 6.0
Tolerance cm3/1000 strokes Check tolerance	: 8.0
cm3/1000s.	: 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 26.02.96 Test oil : ISO 4113

Combination No. : 0 403 446 316

Injection pump

Pump designation : PES6MW100/320RS1216

: -1

: 0 413 406 223 EP type number

Governor

Governer design. : RQV350...1175MW113

: -2

Governer no.

: 0 420 083 248

Cust. part No. :

Customer-spec. information

Customer : RVI

Motor

: MIDR 060226 X

Power KW

: 166.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C

: +- 2.0 Tolerance °C

Overflow valve : 2 417 413 033

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5

Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.25 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 13.00

Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery blocking

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1175

Rack travel in mm : 13.95
Tolerance mm : +- 0.05

: + 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 120.0

Tolerance

cm3/1000 strokes : +- 1.0

Chart talamana	
Check tolerance +	guide sleeve
cm3/1000s. : +- 3.0 $+$	travel mm : 3.65
+	Tolerance mm : +- 0.25
Spreed	
Tolerance	Rated speed rpm : 1790
cm3/1000 strokes : 3.5	guide sleeve
	travel mm : 11.50
Check tolerance	Tolerance mm : +- 0.50
cm3/1090s. : 6.0	Total drice film . T 6.55
T (1000)	
Rated speed rpm : 275	GUIDE SLEEVE POSITION
rated speed (pill . 213	GOIDE SECENE LOSTITON
T	Pated around nam . 1//0
Rack travel in mm: -7.80	Rated speed rpm : 1440
Tolerance mm : +- 0.20	Pools though in the a 10,00
	Rack travel in mm: 10.00
Del. quantity	Tolerance mm : +- 2.70
cm3/1000 strokes : 29.0	
Tolerance +	FILL LOAD DELTHEDY AT FILL LOAD GTOD
cm3/1000 strokes : +- 2.0 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance +	- · · · · · · · · · · · · · · · · · · ·
cm3/1000s. : +- 4.5 +	Rated speed rpm : 1175
Spreed	Aneroid pressure
Tolerance +	hPa : 1000
cm3/1000 strokes : 3.5	Del. quantity
Check tolerance +	cm3/1000 strokes : 120.0
cm3/1000s. : 5.0	Tolerance
+	cm3/1000 strokes : +- 1.0
+	Check tolerance
(B) SETTING OF INJECTION PUMP +	cm3/1000s. : +- 3.0
WITH GOVERNOR +	Spreed
+	Tolerance
+	cm3/1000 strokes : 3.5
GUIDE SLEEVE TRAVEL	Check tolerance
+	cm3/1000s. : 6.0
Rated speed rpm : 350	
guide sleeve	
travel mm : 1.41	
Tolerance mm : + 0.25	
	CONTROL LEVER
	CONTROL LEVER
+	
Rated speed rpm : 1236	control lever
Rated speed rpm : 1236 guide sleeve	control lever position degree : 300.0
Rated speed rpm : 1236 guide sleeve travel mm : 7.00	control lever
Rated speed rpm : 1236 guide sleeve	<pre>control lever position degree : 300.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : + 0.25	control lever position degree : 300.0
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : + 0.25  Rated speed rpm : 907	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : + 0.25  Rated speed rpm : 907 guide sleeve	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +- 0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : + 0.25  Rated speed rpm : 907 guide sleeve	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +- 0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : +- 0.25	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +- 0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : +- 0.25  Rated speed rpm : 435	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +- 0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : +- 0.25  Rated speed rpm : 435 guide sleeve	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : + 0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : + 0.25  Rated speed rpm : 435 guide sleeve travel mm : 2.49	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +- 0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : +- 0.25  Rated speed rpm : 435 guide sleeve	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : +0.25  Rated speed rpm : 435 guide sleeve travel mm : 2.49 Tolerance mm : +0.25	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : +0.25  Rated speed rpm : 907 guide sleeve travel mm : 5.35 Tolerance mm : +0.25  Rated speed rpm : 435 guide sleeve travel mm : 2.49 Tolerance mm : +0.25  Rated speed rpm : 485	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50 Tolerance mm : +- 0.50
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : 907 guide sleeve travel mm : 5.35 Tolerance mm : 435 guide sleeve travel mm : 2.49 Tolerance mm : 425 Rated speed rpm : 2.49 Tolerance mm : 485 guide sleeve travel mm : 2.49 Tolerance mm : 485 guide sleeve	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : 907 guide sleeve travel mm : 5.35 Tolerance mm : 435 guide sleeve travel mm : 2.49 Tolerance mm : 2.49 Tolerance mm : 485 guide sleeve travel mm : 3.01	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50 Tolerance mm : +- 0.50
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : 907 guide sleeve travel mm : 5.35 Tolerance mm : 435 guide sleeve travel mm : 2.49 Tolerance mm : 425 Rated speed rpm : 2.49 Tolerance mm : 485 guide sleeve travel mm : 2.49 Tolerance mm : 485 guide sleeve	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50 Tolerance mm : +- 0.50
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : 907 guide sleeve travel mm : 5.35 Tolerance mm : 435 guide sleeve travel mm : 2.49 guide sleeve travel mm : 2.49 Tolerance mm : 485 guide sleeve travel mm : 3.01 Tolerance mm : 3.01 Tolerance mm : + 0.25	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50 Tolerance mm : +- 0.50 Rated speed rpm : 1600
Rated speed rpm : 1236 guide sleeve travel mm : 7.00 Tolerance mm : 907 guide sleeve travel mm : 5.35 Tolerance mm : 435 guide sleeve travel mm : 2.49 Tolerance mm : 2.49 Tolerance mm : 485 guide sleeve travel mm : 3.01	control lever position degree : 300.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : -1.00 Rated speed rpm : 1225 Tolerance 1/min : +- 15  rack travel mm : -9.90 Rated speed rpm : 1460 Tolerance 1/min : +- 5  rack travel mm : -13.50 Tolerance mm : +- 0.50

		+ Rated speed rpm : > 10
control lever position degree	: 248.0	Rated speed rpm : < 26
tolerance degree	: +- 4.0	+ speed 1/min : > 8
Testing:		+ Check + speed 1/min : < 28
Rated speed rpm rack travel mm		FUEL DELIVERY CHARACTERISTI
Tolerance mm	: +- 0.20	Aneroid pressure
Rated speed rpm	: 200	+ hPa : 1000
CRT mm min.	: > -7.00	+ Rated speed rpm : 700 + Del. quantity
CRI MM MIII.	. > -7.00	cm3/1000 strokes : 131.
TORQUE CONTROL		+ cm3/1000 strokes : +- 2.
Pated aroad nam	: 1175	+ Check tolerance + cm3/1000s. : +- 5.
Rated speed rpm Tolerance mm		+ Spreed
Dated aread nom	: 700	+ Tolerance + cm3/1000 strokes : 6.
Rated speed rpm Tolerance mm	: 700 : +- 0.05	Check tolerance
	. 700	+ cm3/1000s. : 9.
Rated speed rpm rack travel mm	: 700 : -5.50	Aneroid pressure
Tolerance mm	: <del>+-</del> 0.10	+ hPa : -
		+ Rated speed rpm : 700
ANEROID/ALTITUDE		+ Del. quantity + cm3/1000 strokes : 58.
COMPENSATOR TEST		+ Tolerance
		+ cm3/1000 strokes : +- 4. + Check tolerance
SETTING		cm3/1000s. : +- 7.
Rated speed rpm	: 500 : 1000	Aneroid pressure hPa : -
Pressure hPa Tolerance mm	: + 0.05	Rated speed rpm : 500 Del. quantity
MEASUREMENT		+ cm3/1000 strokes : 68.
Decesions hDs	•	+ Tolerance + cm3/1000 strokes : +- 1.
Pressure hPa Rated speed rpm	500	+ Check tolerance
rack travel mm	: -3.80	+  cm3/1000s. : + 3.
Tolerance mm	: +- 0.30	‡ <del></del>
Rated speed rpm	: 500	BREAKAWAY
Pressure hPa	: 240	+
rack travel mm Tolerance mm	: -3.00 : + 0.15	+ Rack travel in mm : -1.0 + Rated speed rpm : 1225
Pressure hPa	: 520	+ Tolerance 1/min : +- 1
rack travel mm	: -0.75	+
Tolerance mm	: +- 0.05	STARTING FUEL DELIVERY
START CUT-OUT		Rated speed rpm : 100
START CUT-OUT		+ Rated speed rpm : 100 + rack travel mm : 20.2

Tolerance mm	:	+-	0.75
Del. quantity cm3/1000 strokes			105.0
Tolerance	:		105.0
cm3/1000 strokes	:	+	10.0
Check tolerance			47.0
cm3/1000s.	:	+-	13.0

## LOW IDLE

Rated speed rpm	:	275	
CHOI TOOD SETSICES	:	29.0	
Tolerance cm3/1000 strokes	: +-	2.0	
Check tolerance cm3/1000s.	: +-	4.5	
Spreed Tolerance			
cm3/1000 strokes Check tolerance	:	3.5	
cm3/1000s.	:	5.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 07.03.96

Test oil

: ISO 4113

Combination No. : 0 400 195 001

Injection pump

Pump designation : PES5M55C32ORS202

EP type number

: 0 410 055 971

Governor

Governer design. : RE

Governer no.

: 0 420 090 002

Cust. part No. :

Customer-spec. information : MB-PKW Customer

Motor

: OM 605

Power KW

: 83.0

TEST BENCH REQUIREMENTS

Inlet line

: 1.1;

Test oil inlet

temp. °C

Tolerance \*C

: +- 2.0

Overflow valve

: 1 469 990 351

Inlet press. bar :

1.0

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 111

Opening pressure

148.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 014

Outside diameter :

6.0

2.0 x inside diameter : x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

26.0 Test pressure bar :

Tolerance bar : +- 1.0

1.75 Prestroke mm Tolerance mm

: +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 17.00

Tolerance mm : +- 1.00

Firing order

: 1-2-4-5-3

Phasing

: 0-72-144-216-288

Start of delivery blocking

\*NW after s.o.d. :

16.50

Tolerance

: +- 0.20

Check tolerance °NW

: +- 0.30

Barrel no.

: 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Engine speed min-1: 0	+ Amplitude V : 1.4
criginio opeca in il i	+ Tolerance V : +/- 0.6
Setting point	+ Check
(P, R and H pump)	+ tolerance V : +/- 1.20
The state of points	- 1000
∪act V : 3.100	Engine speed min-1: 600
CRT mm : 13.00	+ Difference
Tolerance mm : +/- 0.05	+ Amplitude to
Check	Amplitude V : max.1.4
tolerance mm : +/- 0.10	/mperedde v : max. 1. 4
totel dilec limit	1
Check value	
(P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
Cry it did it pumps	T COS ENGLOTEDIA TOTAL METAL TOTAL T
	TEST POINT V1
Uact V : 1.700	- 1201 102111
CRT mm : 6.15	Rated speed rpm : 1000
Tolerance mm : +/- 0.25	+ Uact V : 3.250
Check	Del. quantity
tolerance mm : +/- 0.30	cm3/1000 strokes : 35.5
total allections	Tolerance
	cm3/1000 strokes : +- 0.5
Setting point	Check tolerance
(M pump)	+ cm3/1000s. : +- 1.2
(1) pumps	Spreed
Uact V : 3.190	+ Tolerance
CRT mm : 12.50	- cm3/1000 strokes : 2.5
Tolerance mm : +/- 0.05	Check tolerance
Check	+ cm3/1000s. : 3.0
tolerance mm : +/- 0.10	1 5.0
toter affective	FUEL NELTHERY CHARACTERISTICS
Check value	+ FUEL DELIVERY CHARACTERISTICS
Check value	+ FUEL DELIVERY CHARACTERISTICS
Check value (M pump)	+
(M pump)	Rated speed rpm : 2500
(M pump) Uact V : 1.700	Rated speed rpm : 2500 Uact V : 3.250
(M pump)  Uact V : 1.700  CRT mm : 5.50	Rated speed rpm : 2500 Uact V : 3.250 Del. quantity
(M pump)  Uact V : 1.700  CRT mm : 5.50  Tolerance mm : +/- 0.25	Rated speed rpm : 2500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 41.6
(M pump)  Uact V : 1.700  CRT mm : 5.50  Tolerance mm : +/- 0.25  Check	Rated speed rpm : 2500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 41.6 Check tolerance
(M pump)  Uact V : 1.700  CRT mm : 5.50  Tolerance mm : +/- 0.25	Rated speed rpm : 2500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5
(M pump)  Uact V : 1.700  CRT mm : 5.50  Tolerance mm : +/- 0.25  Check tolerance mm : +/- 0.30	Rated speed rpm : 2500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed
(M pump)  Uact V : 1.700  CRT mm : 5.50  Tolerance mm : +/- 0.25  Check	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position</pre>	Rated speed rpm : 2500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed
<pre>(M pump)  Uact V</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : +- 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : +- 1.2
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6  Check tolerance cm3/1000s. : + 1.5  Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2  Check tolerance cm3/1000s. : + 1.2  Spreed
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6  Check tolerance cm3/1000s. : + 1.5  Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2  Check tolerance cm3/1000s. : + 1.2  Spreed Check tolerance
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6  Check tolerance cm3/1000s. : + 1.5  Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2  Check tolerance cm3/1000s. : + 1.2  Spreed
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 3.0
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 3.0
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 3.0  Rated speed rpm : 100 Uact V : 4.000
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 3.0  Rated speed rpm : 100 Uact V : 4.000 Del. quantity
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 3.0  Rated speed rpm : 100 Uact V : 4.000 Del. quantity cm3/1000 strokes : 52.2
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50  Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 4.2 Spreed Check tolerance cm3/1000s. : 3.0  Rated speed rpm : 100 Uact V : 4.000 Del. quantity cm3/1000 strokes : 52.2 Check tolerance
<pre>(M pump)  Uact V : 1.700 CRT mm : 5.50 Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30  Stop position  Uact V : Value with</pre>	Rated speed rpm : 2500  Uact V : 3.250  Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. : + 1.5 Spreed Check tolerance cm3/1000s. : 3.3  Rated speed rpm : 500 Uact V : 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. : + 1.2 Spreed Check tolerance cm3/1000s. : 3.0  Rated speed rpm : 100 Uact V : 4.000 Del. quantity cm3/1000 strokes : 52.2 Check tolerance

G02

Check tolerance cm3/1000s.	:	5.5
TEST POINT L1		
Rated speed rpm Uact V Del. quantity	•	315 2.200
cm3/1000 strokes	:	7.6

Spreed

Tolerance cm3/1000 strokes : Check tolerance cm3/1000S. : 1.0

1.8

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.03.96 Edition Test oil : ISO 4113

Combination No. : 0 400 195 002

Injection pump

Pump designation : PES5M60C320RS205 EP type number : 0 410 065 001

Governor

Governer design. : RE22

: 0 420 090 002 Governer no.

Cust. part No.

Customer-spec. information Customer : MB-PKW

: OM 605 D 25 LA Motor

: 110.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet

temp. °C 40 Tolerance °C 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0 Tolerance bar 0.1

Test nozzle holde

: 0 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0 x inside diameter : 2.0 600 x length mm

**REMARKS** 

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting. Setting of constant delivery under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-1.0

Prestroke mm 1.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 17.00 : +- 1.00 Tolerance mm

: 1-2-4-5-3 Firing order

: 0-72-144-216-288 Phasing

Start of delivery blocking

\*NW after s.o.d. : 17.00 : +- 0.20 Tolerance

Check

tolerance °NW : + - 0.30

Barrel no. 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION

Engine speed min-1: 0 Setting point (P, R and H pump) : Uact V 3.100 CRT mm 13.00 : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (P, R and H pump) : 1.700 : 6.15 Uact V CRT mm : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Setting point (qmuq M) 3.100 Uact V : 3.100 : 12.50 CRT mm Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (qmuq M) Uact V 1.700 5.50 CRT mm : +/- 0.25 Tolerance mm Check : +/- 0.30 tolerance mm Stop position : Value with Uact V deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm : +/- 0.25 Tolerance mm Check : +/- 0.35 tolerance mm ENGINE-SPEED SENSOR (All P and R pumps not (samua M and H Test with control rod in stop position

Engine speed min-1: 60 Amplitude V: 1.4 Tolerance V : +/- 0.6 Check : +/- 1.20 tolerance V Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm : 1000 3.250 Uact V Del. quantity cm3/1000 strokes : 58.0 Tolerance cm3/1000 strokes : +- 0.5Check tolerance cm3/1000s. : +-2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 3.0 FUEL DELIVERY CHARACTERISTICS 2200 Rated speed rpm : 3.250 Uact V Rated speed rpm : 500 3,250 Uact V TEST POINT L1 340 Rated speed rpm Uact V 1.950 Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : +- 2.2 Spreed Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. 2.0

### STARTING FUEL DELIVERY

Rated speed rpm : 100 Uact V : 3.250

Del. quantity cm3/1000 strokes	•	52.0	
Check tolerance cm3/1000s.	: +-	2 5	
Spreed	; +-	2.3	
Tolerance cm3/1000 strokes	:	8.0	
Check tolerance	•	0.0	
cm3/1000s.	:	8.5	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 08.03.96 : ISO 4113

Combination No. : 0 400 195 004

Injection pump

Pump designation : PES5M60C320RS205

EP type number : 0 410 065 001

Governor

Governer design. : RE22

Governer no.

: 0 420 090 003

Cust. part No.

Customer-spec. information : MB-PKW Customer

: OM 605 D 25 LA Motor

Power KW : 110.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet

temp. °C 40 Tolerance °C 2.0

: 1 469 990 351 Overflow valve

Inlet press. bar : Tolerance bar 0.1

Test nozzle holde

: 0 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : + 1.5

: 1 680 750 014 Test lines

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

1.55 Prestroke mm : +- 0.05 Tolerance mm

Check

tolerance mm : + - 0.10

Rack travel in mm : 17.00 Tolerance mm : +- 1.00

: 1-2-4-5-3 Firing order

Phasing : 0-72-144-216-288

Start of delivery blocking

"NW after s.o.d. : 17.00 Tolerance : +- 0.20

Check

tolerance "NW : +- 0.30

Barrel no. :

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

G07

Engine speed min-1: 0 Setting point (P, R and H pump) : 3.100 : 13.00 Uact V 3,100 CRT mm : +/- 0.05 Tolerance mm Check tolerance mm :  $\pm -0.10$ Check value (P, R and H pump) : 1.700 : 6.15 Uact V CRT mm Tolerance mm : +/- 0.25 Check tolerance mm : +/- 0.30 Setting point (qmuq M) : 3.100 : 12.50 Uact V CRT mm Tolerance mm : +/- 0.05 Check tolerance mm : +/- 0.10 Check value (amua M) : 1.700 : 5.50 Uact V 5.50 CRT mm Tolerance mm :  $\pm -0.25$ Check tolerance mm : +/- 0.30Stop position : Value with Uact V deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm : +/- 0.25 Tolerance mm Check tolerance mm :  $\pm -0.35$ ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position

Engine speed min-1: 60 Amplitude V: 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 1000 Rated speed rpm : Uact V : 3.250 Del. quantity cm3/1000 strokes : 58.0 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : +-2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance 3.0 cm3/1000s. FUEL DELIVERY CHARACTERISTICS 2200 Rated speed rpm : Uact V 3.250 500 Rated speed rpm : 3.250 Uact V TEST POINT L1 340 Rated speed rpm : Uact V 1.950 Del. quantity cm3/1000 strokes : 10.5 Tolerance cm3/1000 strokes : +- 2.2Spreed Tolerance cm3/1000 strokes : 1.5 Check tolerance cm3/1000s. 2.0

STARTING FUEL DELIVERY

Rated speed rpm :

Uact V

100

:

3.250

Del. quantity cm3/1000 strokes Check tolerance	6 •	52.0
cm3/1000s.	: +-	2.5
Spreed Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance cm3/1000s.	:	8.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 08.03.96 Edition : ISO 4113 Test oil

Combination No. : 0 400 196 002

Injection pump

Pump designation : PES6M55C32ORS2O4 EP type number : 0 410 056 969

Governor

Governer design. : RE22

Governer no. : 0 420 090 002

Cust. part No. :

Customer-spec. information Customer : MB-PKW : OM 606 Motor Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 1.1;

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0 Tolerance bar : + 0.1

Test nozzle holde

: 0 688 901 111 assembly

Opening pressure

148.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

G10

2.0 x inside diameter : x Length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 1.75 Tolerance mm : +- 0.05

Check

: +- 0.05 tolerance mm

Rack travel in mm : 17.00 : +- 1.00 Tolerance mm

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

Start of delivery blocking

\*NW after s.o.d. : 16.50 Tolerance : +- 0.20 Check

tolerance °NW : +- 0.30

Barrel no. : 1

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: 0 Setting point (P, R and H pump) Uact V 3.100 13.00 CRT mm : +/- 0.05 Tolerance mm Check tolerance mm : +/- 0.10Check value (P, R and H pump) Uact V 1.700 6.15 CRT mm Tolerance mm : +/- 0.25Check tolerance mm : +/- 0.30Setting point (M pump) Uact V 3.100 CRT mm 12.50 Tolerance mm : +/- 0.05Check tolerance mm : +/- 0.10Check value (amuq M) 1.700 Uact V CRT mm 5.50 Tolerance mm : +/- 0.25 Check : +/- 0.30 tolerance mm Stop position : Value with Uact V deenergised adjusting magnet and control rod in stop position. 0.75 CRT mm : +/- 0.25 Tolerance mm Check tolerance mm : +/- 0.35ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps)

Test with control rod in stop position Engine speed min-1: 60 Amplitude V 1.4 Tolerance V : +/- 0.6 Check tolerance V : +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm 1000 Uact V 3.250 Del. quantity cm3/1000 strokes : 35.5 Tolerance cm3/1000 strokes : +-0.5Check tolerance cm3/1000s.1.2 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. 3.0 FUEL DELIVERY CHARACTERISTICS Rated speed rpm 2500 Uact V 3.250 Del. quantity cm3/1000 strokes : 41.6 Check tolerance cm3/1000s. 1.5 : +-Spreed Check tolerance cm3/1000s. 3.3 500 Rated speed rpm : Uact V 3.250 Del. quantity cm3/1000 strokes : 33.2 Check tolerance cm3/1000s. 1.2 Spreed Check tolerance cm3/1000s.3.0 TEST POINT L1

Rated speed rpm :

330

Uact V	•	2.200
Del. quantity cm3/1000 strokes	:	7.6
Spreed		
Tolerance		4.0
cm3/1000 strokes	:	1.0
Check tolerance cm3/1000s.	:	1.8

### STARTING FUEL DELIVERY

Rated speed rpm : 100
Uact V : 4.000
Del. quantity
cm3/1000 strokes : 52.2
Check tolerance
cm3/1000s. : +- 3.5
Spreed
Check tolerance
cm3/1000s. : 5.5

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 15.03.96 Test oil : ISO 4113

Combination No. : 0 402 746 650

Injection pump

Pump designation : PES6P120A320RS7344

EP type number : 0 412 726 914

Governor

Governer design. : RQ275/1050PA999-6

Governer no. : 0 421 801 785

Cust. part No. : CCEP 5151A 66-230

Customer-spec. information

Customer : RVI

Motor : MIDR 062045 M41 Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Overflow quantity

min. l/h : 145 Tolerance l/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.50
Tolerance mm : + 0.05

Check

tolerance mm  $: \leftarrow 0.10$ 

Rack travel in mm : 11.00

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

 $^{\circ}$ NW after s.o.d. : -0.15

Tolerance : <del>+-</del> 0.50

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

Beginning of delivery differende

betw. rack trav.

: 21.00 mm

and maximum rack

travel : 11.00 Difference ° CS : 2.25

+	Rated speed rpm : 1050
BASIC SETTING	guide sleeve travel mm : 6.00
Shore of the	Tolerance mm : +- 0.10
Rated speed rpm : 600	
	Rated speed rpm : 416
Poel tunnel in man 11 60	guide sleeve
Rack travel in mm: 11.60 + Tolerance mm: +- 0.05 +	travel mm : 3.44 Tolerance mm : +- 0.10
Total arice min . 1 0.05	Totel alice min O. 10
Del. quantity	Rated speed rpm : 560
cm3/1000 strokes : 288.0	guide sleeve
	travel mm : 6.00
Tolerance + cm3/1000 strokes : +- 1.0 +	Tolerance mm : +- 0.10
cms/1000 strokes : += 1.0	Rated speed rpm : 1350
Check tolerance	guide sleeve
cm3/1000s. : +- 4.0	travel mm : 11.50
	Tolerance mm : +- 0.50
Spreed	
Tolerance +	CHILD'S CHESTER DOCUTION
cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance	Rated speed rpm : 600
cm3/1000s. : 9.0	nacca specta (piii 1 oco
+	Rack travel in mm : 20.00
Rated speed rpm : 275 +	Tolerance mm : +- 0.80
+	
Rack travel in mm: -7.00	FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : +- 0.10	FOLE LOAD DELIVERY AT FOLE LOAD STOP
Del. quantity	Rated speed rpm : 600
cm3/1000 strokes : 37.0	Aneroid pressure
Tolerance	hPa : 1000
cm3/1000 strokes : +- 2.0 +	Del. quantity
Check tolerance	cm3/1000 strokes : 288.0
cm3/1000S. : +- 5.0 +- Spreed	Tolerance cm3/1000 strokes : +- 1.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0	cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : 12.0	Tolerance
†	cm3/1000 strokes : 5.0
(D) CETTING OF TALLECTION DUMP	Check tolerance cm3/1000s. : 9.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000S. : 9.0
WITH GOVERNOR	
GUIDE SLEEVE TRAVEL	CONTROL LEVER
†	and all lavan
Rated speed rpm : 275	control lever position degree : 274.0
guide sleeve + travel mm : 0.80 +	tolerance degree : +- 4.0
Tolerance mm : + 0.10	total dilice degree Tio
+	RATED SPEED
Rated speed rpm : 1132	
guide steeve	rack travel mm : -1.00
travel mm : 6.37	Rated speed rpm : 1135
Tolerance mm : +- 0.10 +	Tolerance 1/min : +- 5

rack travel mm Rated speed rpm Tolerance 1/min	: -7.60 : 1240 : +- 15
rack travel mm Tolerance mm Rated speed rpm	: −11.10 : ← 0.50 : 1350
LOW IDLE	
control lever position degree tolerance degree	
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 275 : -7.00 : +- 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: -9.50 : 365 : +- 20
Rated speed rpm	: 200
CRT mm min.	: < -5.80
TORQUE CONTROL	
Rated speed rpm	: 600
Rated speed rpm Tolerance mm	: 1050 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1000
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	500 : -3.65 : +- 0.30
Rated speed rpm	: 500
Pressure hPa rack travel mm	: 560 : -1.25
245	

Tolerance mm  Pressure hPa rack travel mm Tolerance mm	: +- 0.15 : 320 : -2.75 : +- 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 225
Check speed 1/min	: > 80
Check speed 1/min	: < 245
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1000 : 1050 : 281.0 : +- 3.0 : +- 6.0
hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 114.0 : +- 1.0 : +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1135
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 150.0 : +- 15.0 : +- 19.0

# LOW IDLE

275 Rated speed rpm : Del. quantity cm3/1000 strokes : 37.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0 : +-Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s.

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24.04.96 Edition Test oil : ISO 4113

Combination No. : 9 407 083 263

Injection pump

Pump designation : PES6A90D320RS2605 EP type number : 9 400 083 078

Governor

Governer design. : RSV325...900A1C2132R

Governer no. : 9 420 083 280

Cust. part No. :

Customer-spec. information Customer : MWM

: TD 229-6 Motor Power KW : 89.7

#### TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : +- 2.0 Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 har Tolerance bar : +- 1.5

Test Lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

## BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 2.25 Tolerance mm : +- 0.05 Check

tolerance mm : +~ 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

: 10.50 travel travel Tolerance mm : +- 1.50 Difference \* CS : 4.50

# BASIC SETTING

Rated speed rpm : 900

Rack travel in mm: 10.25 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 73.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : + 2.5

1	
Spreed	
Tolerance cm3/1000 strokes : 3.0	- CONTROL LEVER
CIIS/1000 Strokes : 3.0	- - control lever
Check tolerance	position degree : 97.0
cm3/1000s. : 7.0	tolerance degree : +- 4.0
Rated speed rpm : 325	• •
+	- ASSEMBLY GOVERNOR SETTING
Rack travel in mm: 7.00	- - Rated speed rpm : 923
Tolerance mm : + 0.10	rack travel mm : 9.20
Del. quantity	
cm3/1000 strokes : 15.5	- Rated speed rpm : 958 - Tolerance 1/min : +- 4
cm3/1000 strokes : + 2.0	rack travel mm : 4.00
Check tolerance	
cm3/1000s. : + 4.0	rack travel mm : 0.85 Tolerance mm : +- 0.55
Tolerance	Rated speed rpm : 1050
cm3/1000 strokes : 4.5	. Data disposal non con 2007
Check tolerance cm3/1000s. : 7.0	Rated speed rpm : 924 rack travel mm : 9.20
+	•
(D) CETTING OF THEFETTON DUMP	Rated speed rpm : 959
(B) SETTING OF INJECTION PUMP	Tolerance 1/min : +- 4 rack travel mm : 4.00
	rack travel mm : 0.85 Tolerance mm : +- 0.55
GUIDE SLEEVE POSITION	Tolerance mm : +- 0.55 Rated speed rpm : 1050
1	
Rated speed rpm : 800	Rated speed rpm : 925 rack travel mm : 9.20
Rack travel in mm: 0.65	rack travet min . 9.20
Tolerance mm : + 0.35	Rated speed rpm : 960
governor spring	Tolerance 1/min : +- 4 rack travel mm : 4.00
pre-tension +	Tack Clavet IIIII . 4.00
click setting x : 4.25	rack travel mm : 0.85
	Tolerance mm : +- 0.55 Rated speed rpm : 1050
FULL LOAD DELIVERY AT FULL LOAD STOP	
Rated speed rpm : 900	Rated speed rpm : 926 rack travel mm : 9.20
Rated speed rpm : 900 + Aneroid pressure	rack travet mm : 9.20
hPa : - +	Rated speed rpm : 961
Del. quantity + cm3/1000 strokes : 73.5 +	Tolerance 1/min : +- 4 rack travel mm : 4.00
cm3/1000 strokes : /3.5 + Tolerance +	rack travet min . 4.00
cm3/1000 strokes : +- 0.5	rack travel mm : 0.85
Check tolerance cm3/1000s. : +- 2.5	Tolerance mm : + 0.55 Rated speed rpm : 1050
Spreed	·
Tolerance	Rated speed rpm : 927
cm3/1000 strokes : 3.0 +	rack travel mm : 9.20
cm3/1000s. : 7.0	Rated speed rpm : 962
+	Tolerance 1/min : +- 4

rack travel mm	: 4.00
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1050
Rated speed rpm rack travel mm	: 928 : 9.20
Rated speed rpm Tolerance 1/min rack travel mm	: +- 4
rack travel mm Tolerance mm Rated speed rpm	: 0.85 : + 0.55 : 1050
LOW IDLE	
control lever position degree tolerance degree	: 74.0 : + 4.0
Setting point w/o	out bumper spring
Rated speed rpm rack travel mm	: 325 : 6.50
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : 7.00 : + 0.10
rack travel mm Rated speed rpm Tolerance 1/min	: 2.00 : 395 : + 30
Rated speed rpm	: 100
CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 900 : 10.25 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 375 : 11.30 : + 0.30

STARTING FUEL DEL Rated speed rpm rack travel mm	: 100
Tolerance mm	: +- 1.00
LOW IDLE	
Rated speed rpm Del. quantity	: 325
cm3/1000 strokes	: 15.5
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s. Spreed	: +- 4.0
	: 4.5
Check tolerance cm3/1000s.	: 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.04.96 : ISO 4113

Combination No. : 9 407 083 270

Injection pump

Pump designation : PES6A90D410RS2293 EP type number : 0 410 896 031

Governor

Governer design. : RQV300...1400AB740

: -1L

Governer no.

: 9 420 080 153

Cust. part No. :

Customer-spec. information : MBA Customer : OM352-A Motor Power KW : 117.8

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

: 173.5 bar Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

2.0 x inside diameter : x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.20 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 11.05 Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 71.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. 2.5

Spreed

Tolerance

cm3/1000 strokes :

3.0

Check tolerance

cm3/1000s. 7.0

G20

	1
Rated speed rpm : 300	Rated speed rpm : 1400 Aneroid pressure
Rack travel in mm : 7.50	hPa : - Del. quantity
Tolerance mm : +- 0.10 Del. quantity	cm3/1000 strokes : 71.5
cm3/1000 strokes : 11.0 Tolerance	cm3/1000 strokes : +- 0.5 Check tolerance
cm3/1000 strokes : +- 2.0 Check tolerance	cm3/1000s. : +- 2.5 + Spreed
cm3/1000s. : +- 4.0 Spreed	Tolerance cm3/1000 strokes : 3.0
Tolerance cm3/1000 strokes : 4.5	Check tolerance cm3/1000s. : 7.0
Check tolerance cm3/1000s. : 7.0	†
(B) SETTING OF INJECTION PUMP	CONTROL LEVER
WITH GOVERNOR	control lever position degree : 116.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	RATED SPEED
Rated speed rpm : 1460	+
guide sleeve	+ rack travel mm : 10.00
travel mm : 8.50	+ Rated speed rpm : 1445
Tolerance mm : +- 0.10	Tolerance 1/min : +- 5
Rated speed rpm : 775	rack travel mm : 4.00
guide sleeve	+ Rated speed rpm : 1570
travel mm : 4.35	+ Tolerance 1/min : +- 15
Tolerance mm : +- 0.25	+ rack travel mm : 0.50
Rated speed rpm : 300	Tolerance mm : +- 0.50
guide sleeve	Rated speed rpm : 1700
travel mm : 0.95	+
Tolerance mm : +- 0.25	†
Rated speed rpm : 550 guide sleeve	LOW IDLE
travel mm : 2.85	+
Tolerance mm : +- 0.15	control lever position degree : 68.0
Rated speed rpm : 950 guide sleeve	tolerance degree : +- 4.0
travel mm : 5.35	+ Testing:
Tolerance mm : +- 0.15	Rated speed rpm : 300
	+ rack travel mm : 7.50
GUIDE SLEEVE POSITION	Tolerance mm : + 0.10
Rated speed rpm : 1420	Rated speed rpm : 100
Rack travel in mm : 16.50 Tolerance mm : +- 1.30	CRT mm min. : > 9.00
	Rated speed rpm : 435
FULL LOAD DELIVERY AT FULL LOAD STOP	+

# TORQUE CONTROL Rated speed rpm : 1400 rack travel mm 11.05 : +- 0.05 Tolerance mm Rated speed rpm : rack travel mm : 500 11.10 Tolerance mm : + 0.10 START CUT-OUT Rated speed rpm : > 100 Rated speed rpm : < 220 Check speed 1/min : > 80 Check speed 1/min : < 240 FUEL DELIVERY CHARACTERISTICS Aneroid pressure Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 54.0 Tolerance cm3/1000 strokes : + 1.5Check tolerance cm3/1000s. 3.5 BREAKAWAY Rack travel in mm : 10.00 Rated speed rpm : 1445 Tolerance 1/min : +-STARTING FUEL DELIVERY 100 Rated speed rpm rack travel mm : 13.90 Tolerance mm : +- 0.20 Del. quantity 78.0 cm3/1000 strokes : Tolerance cm3/1000 strokes : +- 7.5Check tolerance

: +- 10.0

Rated speed rpm	:	300
Del. quantity		
cm3/1000 strokes	:	11.0

LOW IDLE

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance

cm3/1000s. : +- 4.0 Spreed

Tolerance cm3/1000 strokes : 4.5 Check tolerance

cm3/1000s. : 7.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 19.04.96 Test oil : ISO 4113

Combination No. : 9 407 083 279

Injection pump

Pump designation : PES6A80D320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1400A2C2179

: R

Governer no. : 9 420 083 281

Cust. part No. :

Customer-spec. information

Customer : MWM
Motor : D229-6
Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp.  $^{\circ}$ C : 40 Tolerance  $^{\circ}$ C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 2.25
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1400

Rack travel in mm : 9.65 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.0

G23

-	+
Spreed -	
Tolerance -	CONTROL LEVER
cm3/1000 strokes : 2.5	
Check tolerance	control lever
cm3/1000s. : 4.0	<pre>position degree : 105.0 tolerance degree : +- 4.0</pre>
(1137 1000), . 4.0	L coterante degree . 1- 4.0
Rated speed rpm : 350	RATED SPEED
Marca opeca (pin : 330	+
-	rack travel mm : 8.60
Rack travel in mm: 7.40	Rated speed rpm : 1445
Tolerance mm : +- 0.10 -	Tolerance 1/min : +- 5
Del. quantity -	+
cm3/1000 strokes : 12.5	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1490
cm3/1000 strokes : +- 1.5	Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : +- 3.5	t - rack travel mm : 0.85
Spreed	Tolerance mm : +- 0.55
Tolerance	Rated speed rpm : 1650
cm3/1000 strokes : 4.0	Rated speed i piii : 1030
Check tolerance	_
cm3/1000s. : 6.0	
<del>-</del>	LOW IDLE
7	+
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	control lever
<del>1</del>	position degree : 72.0
<del>-</del> 1	tolerance degree : +- 4.0
CUIVA E OL FELIC DOCUTION	
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 350
Rated speed rpm : 800	rack travel mm : 6.90
Rack travel in mm: 0.65	L
Tolerance mm : + 0.35	Testing:
	-
governor spring	Rated speed rpm : 350
pre-tension +	rack travel mm : 7.40
click setting x : 4.00	Tolerance mm : +- 0.10
+	
	rack travel mm : 2.00
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 660
Detect aread non 1/00	Tolerance 1/min : +- 30
Rated speed rpm : 1400	- Rated speed rpm : 100
Aneroid pressure	Rated speed rpm : 100
Del. quantity	CRT mm min. : > 19.00
cm3/1000 strokes : 55.0	
Tolerance	
cm3/1000 strokes : + 0.5	TORQUE CONTROL
Check tolerance	-
cm3/1000s. : +- 2.0	Rated speed rpm : 1400
Spreed	- rack travel mm : 9.65
Tolerance	- Tolerance mm : +- 0.05
cm3/1000 strokes : 2.5	<u></u>
Check tolerance	- Rated speed rpm : 500
cm3/1000s. : 4.0	nack thaval mm + 10 45
	- rack travel mm : 10.65
+	- Tolerance mm : +- 0.05

Rated speed rpm : 800 rack travel mm : 10.40 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 50.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

: +- 3.0 cm3/1000s.

Aneroid pressure

hPa Rated speed rpm : 800

Del. quantity cm3/1000 strokes : 53.0

Tolerance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. : +- 3.0

BREAKAWAY

Rack travel in mm: 8.60 Rated speed rpm : 1445 Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 12.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 6.0

End of test specification sheet

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#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 19.04.96 Edition : ISO 4113 Test oil

Combination No. : 9 407 083 281

Injection pump

Pump designation : PES6A80D320RS1271 EP type number : 9 400 083 058

Governor

Governer design. : RSV350...1150A2C2129

: -1R

Governer no. : 9 420 083 282

Cust. part No. :

Customer-spec. information Customer : MWM : D 229-6 Motor : 77.2 Power KW

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance \*C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

#### **REMARKS**

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values

## BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.25 : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Beginning of delivery differende

and maximum rack

travel 10.50 : +- 1.50 Tolerance mm Difference \* CS : 4.50

#### BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 9.45 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 50.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance

cm3/1000s. : +- 2.0

0			
Spreed Tolerance cm3/1000 strokes :	2.5	CONTROL LEVER	
Check tolerance cm3/1000s.	4.0	position degree : tolerance degree : +-	
Rated speed rpm :	350	RATED SPEED	
Rack travel in mm : Tolerance mm : Del. quantity		rack travel mm : Rated speed rpm : 11 Tolerance 1/min : +-	175
cm3/1000 strokes : Tolerance	8.5	rack travel mm : Rated speed rpm : 12	4.00
cm3/1000 strokes : Check tolerance	<del>-</del>	Tolerance 1/min : +-	15
cm3/1000s. : Spreed	+- 3.5	rack travel mm : Tolerance mm :+-	0.55
Tolerance cm3/1000 strokes : Check tolerance	4.0	Rated speed rpm : 14	500
cm3/1000s. :	6.0	LOW IDLE	
(B) SETTING OF INJE	CTION PUMP	<pre>control lever position degree : tolerance degree : +-</pre>	73.0
		outer arrow angrees	7.0
GUIDE SLEEVE POSITI	ON	Setting point w/out bump	
Rated speed rpm :	800	Setting point w/out bump	er spring
	800 +	Setting point w/out bump Rated speed rpm : 3	er spring
Rated speed rpm :	800 0.65 +- 0.35	Setting point w/out bump Rated speed rpm : 3 rack travel mm :	er spring 50 6.50 7.00
Rated speed rpm : Rack travel in mm : Tolerance mm : governor spring pre-tension click setting x : FULL LOAD DELIVERY	800 0.65 +- 0.35 4.25 AT FULL LOAD STOP	Setting point w/out bump Rated speed rpm : 3 rack travel mm :  Testing:  Rated speed rpm : 3 rack travel mm : Tolerance mm : +- rack travel mm :	er spring 50 6.50 7.00
Rated speed rpm :  Rack travel in mm :  Tolerance mm :  governor spring pre-tension click setting x :  FULL LOAD DELIVERY  Rated speed rpm : Aneroid pressure	800 0.65 +- 0.35 4.25 AT FULL LOAD STOP	Setting point w/out bump Rated speed rpm : 3 rack travel mm :  Testing:  Rated speed rpm : 3 rack travel mm : Tolerance mm : +-  rack travel mm : Rated speed rpm : 6 Tolerance 1/min : +-	er spring 6.50 6.50 7.00 0.10 2.00
Rated speed rpm :  Rack travel in mm :  Tolerance mm :  governor spring pre-tension click setting x :  FULL LOAD DELIVERY  Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes :	800 +- 0.65 +- 0.35 4.25 AT FULL LOAD STOP 1150	Setting point w/out bump Rated speed rpm : 3 rack travel mm :  Testing:  Rated speed rpm : 3 rack travel mm : Tolerance mm : +-  rack travel mm : Rated speed rpm : 6 Tolerance 1/min : +-	er spring 50 6.50 7.00 7.00 0.10 2.00 45 30
Rated speed rpm :  Rack travel in mm :  Tolerance mm :  governor spring pre-tension click setting x :  FULL LOAD DELIVERY  Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes :	800 +- 0.65 +- 0.35 4.25 AT FULL LOAD STOP 1150	Setting point w/out bump  Rated speed rpm : 3 rack travel mm :  Testing:  Rated speed rpm : 3 rack travel mm : Tolerance mm : +-  rack travel mm : Rated speed rpm : 6 Tolerance 1/min : +-  Rated speed rpm : 1	er spring 50 6.50 7.00 7.00 0.10 2.00 45 30
Rack travel in mm: Tolerance mm: governor spring pre-tension click setting x:  FULL LOAD DELIVERY  Rated speed rpm: Aneroid pressure hPa: Del. quantity cm3/1000 strokes: Tolerance cm3/1000 strokes: Check tolerance cm3/1000s.: Spreed:	800 - 0.65 +- 0.35 4.25 AT FULL LOAD STOP 1150 - 50.0	Setting point w/out bump Rated speed rpm : 3 rack travel mm :  Testing:  Rated speed rpm : 3 rack travel mm : Tolerance mm : +-  rack travel mm : Rated speed rpm : 6 Tolerance 1/min : +-  Rated speed rpm : 1 CRT mm min. : > 1  TORQUE CONTROL  Rated speed rpm : 11 rack travel mm :	er spring 50 6.50 7.00 0.10 2.00 45 30 00 9.00
Rated speed rpm :  Rack travel in mm :  Tolerance mm :  governor spring pre-tension click setting x :  FULL LOAD DELIVERY  Rated speed rpm : Aneroid pressure hPa : Del. quantity cm3/1000 strokes : Tolerance cm3/1000 strokes : Check tolerance cm3/1000s. :	800 - 0.65 +- 0.35 4.25 AT FULL LOAD STOP 1150 - 50.0 +- 0.5 +- 2.0	Setting point w/out bump Rated speed rpm : 3 rack travel mm :  Testing:  Rated speed rpm : 3 rack travel mm : Tolerance mm : +-  rack travel mm : Rated speed rpm : 6 Tolerance 1/min : +-  Rated speed rpm : 1 CRT mm min. : > 1  TORQUE CONTROL  Rated speed rpm : 11 rack travel mm : Tolerance mm : +-	er spring 50 6.50 7.00 0.10 2.00 45 30 00 9.00

Rated speed rpm : 900 rack travel mm : 10.+0 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 500 Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

Aneroid pressure

hPa Rated speed rpm : 900

Del. quantity

cm3/1000 strokes : 52.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

BREAKAWAY

8.50 Rack travel in mm: Rated speed rpm : 1175 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 : +- 1.00 Tolerance mm

LOW IDLE

Rated speed rpm : 350 Del. quantity

cm3/1000 strokes : 8.5

Tolerance

1.5 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. : +- 3.5

Spreed

Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. 6.0

End of test specification sheet

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BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... : 19.04.96 Edition : ISO 4113 Test oil Combination No. : 9 407 083 283 Injection pump Pump designation : PES3A80D320RS1281 EP type number : 9 400 083 054 Governor Governer design. : RSV350...1150A2C2129 : -1R : 9 420 083 282 Governer no. Cust. part No. Customer-spec. information Customer : MWM : D 229-3 Motor Power KW 55.0 TEST BENCH REQUIREMENTS : 3.1 Inlet line Test oil inlet 40 temp. °C Tolerance °C : +- 2.0 : 1 417 413 046 Overflow valve Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure 173.5 bar : + 1.5 Tolerance bar

: 1 680 750 003

x inside diameter x length mm	: 2.0 : 600
REMARKS	
(A) INJECTION PUM Set equal deliver per values	y quant.
BEGINNING OF DELI	VERY
Test pressure bar Tolerance bar	
Prestroke mm Tolerance mm Check	: 2.25 : +~ 0.05
tolerance mm	: +- 0.10
Rack travel in mm Tolerance mm	: 10.50 : +- 1.50
Firing order	: 1- 2- 3
Phasing	: 0-120-240
Beginning of deli	very differende
and maximum rack travel Tolerance mm Difference °CS	: 10.50 : + 1.50 : 4.50
BASIC SETTING	
Rated speed rpm	: 1150
Rack travel in mm Tolerance mm	: 9.45 : +- 0.05
Del. quantity cm3/1000 strokes	: 51.5
Tolerance cm3/1000 strokes	: +- 0.5
Check tolerance cm3/1000S.	: +- 2.0
Spreed	Min palleting dan inip mil Agenturaksprontlerings daja diplakspringsbrong belongs agentupa

H01

Test lines

Outside diameter : 6.0

T 1	
Tolerance cm3/1000 strokes : 2.5	tolerance degree : +- 4.0
CIID/ 1000 Strokes . 2.3	RATED SPEED
Check tolerance	+
cm3/1000s. : 4.0	+ rack travel mm : 8.40
Data dama dama 200	Rated speed rpm : 1195
Rated speed rpm : 350	Tolerance 1/min : +- 5
	Track travel mm : 4.00
Rack travel in mm : 7.00	+ Rated speed rpm : 1250
Tolerance mm : + 0.10	+ Tolerance 1/min : +- 15
Del. quantity	†
cm3/1000 strokes : 11.0 Tolerance	+ rack travel mm : 0.85 + Tolerance mm : +- 0.55
cm3/1000 strokes : +- 1.5	+ Tolerance mm : +- 0.55 + Rated speed rpm : 1400
Check tolerance	+ Nated Speed (pii) . 1-05
cm3/1000s. : +- 3.5	+
Spreed	+
Tolerance cm3/1000 strokes : 4.0	+ LOW IDLE
cm3/1000 strokes : 4.0 Check tolerance	I
cm3/1000s. : 6.0	control lever
	position degree : 75.0
	tolerance degree : +- 4.0
(B) SETTING OF INJECTION PUMP	Cotting point would be proper apping
WITH GOVERNOR	+ Setting point w/out bumper spring
	Rated speed rpm : 350
	rack travel mm : 6.50
GUIDE SLEEVE POSITION	+ 
Rated speed rpm : 800	+ Testing:
Nated speed (pill )	T
•	Rated speed rpm : 350
Rack travel in mm: 0.65	Rated speed rpm : 350 rack travel mm : 7.00
Rack travel in mm: 0.65 Tolerance mm: + 0.35	Rated speed rpm : 350 rack travel mm : 7.00 Tolerance mm : +- 0.10
	rack travel mm : 7.00 Tolerance mm : + 0.10
Tolerance mm : +- 0.35	rack travel mm : 7.00 Tolerance mm : + 0.10 rack travel mm : 2.00
	rack travel mm : 7.00 Tolerance mm : + 0.10
Tolerance mm : +- 0.35	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : -	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30  Rated speed rpm : 100
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150  Aneroid pressure hPa : - Del. quantity	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : -	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30  Rated speed rpm : 100
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : +- 30  Rated speed rpm : 100
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5 Check tolerance	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL
Tolerance mm : + 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150
Tolerance mm : + 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45
Tolerance mm : + 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150
Tolerance mm : + 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500
Tolerance mm : + 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5 Tolerance cm3/1000 strokes : + 0.5 Check tolerance cm3/1000s. : + 2.0 Spreed Tolerance cm3/1000 strokes : 2.5	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 10.85
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 10.85 Tolerance mm : + 0.05
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 10.85
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 4.0  CONTROL LEVER	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 10.85 Tolerance mm : + 0.05  Rated speed rpm : 900
Tolerance mm : +- 0.35  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1150 Aneroid pressure hPa : - Del. quantity cm3/1000 strokes : 51.5  Tolerance cm3/1000 strokes : +- 0.5 Check tolerance cm3/1000s. : +- 2.0 Spreed Tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000 strokes : 2.5 Check tolerance cm3/1000s. : 4.0	rack travel mm : 7.00 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 680 Tolerance 1/min : + 30  Rated speed rpm : 100  CRT mm min. : > 19.00  TORQUE CONTROL  Rated speed rpm : 1150 rack travel mm : 9.45 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 10.85 Tolerance mm : + 0.05  Rated speed rpm : 900 rack travel mm : 900 rack travel mm : 10.15

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity
cm3/1000 strokes : 53.5

Tolerance cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

Aneroid pressure

hPa :

Rated speed rpm : 900

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

#### BREAKAWAY

Rack travel in mm: 8.40
Rated speed rpm: 1195
Tolerance 1/min: +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

## LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 11.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.5

Spreed Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 6.0

#### Note remarks

Refer to Service Info for test and adjustment instructions.
See microcard(s) W400/...

Edition : 24.04.96 Test oil : ISO 4113

Combination No. : 9 407 083 284

Injection pump

Pump designation : PES4A80D320RS1282 EP type number : 9 400 083 056

Governor

Governer design. : RSV350...1150A2C2129

: -1R

Governer no. : 9 420 083 282

Cust. part No. :

Customer-spec. information

Customer—spec. Information

Customer : MWM

Motor : D 229-4 Power KW : 53.5

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly : 0 681 343 009

Opening pressure

bar : 173.5 Tolerance bar : + 1.5

Test lines : 1 680 750 003

Outside diameter : 6.0

٦/

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.25
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Beginning of delivery differende

and maximum rack

travel : 10.50
Tolerance mm : + 1.50
Difference ° CS : 4.50

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 8.85
Tolerance mm: : + 0.05

Del. quantity

cm3/1000 strokes : 50.0

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +- 2.0

Spreed

Tolerance -	†
cm3/1000 strokes : 2.5	CONTROL LEVER
Check tolerance - cm3/1000s. : 4.0 -	control lever
CIII37 10000: . 4.0	position degree : 97.0
Rated speed rpm : 350	tolerance degree : +- 4.0
· · · ·	<del>-</del>
	RATED SPEED
Rack travel in mm : $6.50$ - Tolerance mm : $\leftarrow 0.10$ -	t rack travel mm : 7.90
Del. quantity	Rated speed rpm : 1175
cm3/1000 strokes : 8.5	Tolerance 1/min : +- 5
Tolerance	
cm3/1000 strokes : +- 1.5	rack travel mm : 4.00
Check tolerance - cm3/1000S. : +- 3.5 -	Rated speed rpm : 1225 Tolerance 1/min : +- 15
Spreed	L Toterance Trimin : 4- 15
Tolerance	rack travel mm : 0.85
cm3/1000 strokes : 4.0	Tolerance mm : +- 0.55
Check tolerance	Rated speed rpm : 1400
cm3/1000s. : 6.0	
(B) SETTING OF INJECTION PUMP	LOW IDLE
WITH GOVERNOR	
1	- control lever
	position degree : 73.0
GUIDE SLEEVE POSITION	tolerance degree : + 4.0
Rated speed rpm : 800 -	Setting point w/out bumper spring
Nated Speed Ppill . 000	- Secting point would bumper spring
Rack travel in mm : 0.65	Rated speed rpm : 350
Tolerance mm : +- 0.35	rack travel mm : 6.00
governor spring	Testing:
pre-tension	r resumg. L
click setting x : 4.50	Rated speed rpm : 350
<u> </u>	rack travel mm : 6.50
THE LAND BELTWEEN AT THE LAND STOP	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	- rack travel mm · 200
Rated speed rpm : 1150	- rack travel mm : 2.00 - Rated speed rpm : 625
Aneroid pressure	- Tolerance 1/min : +- 30
hPa : -	
Del. quantity	- Rated speed rpm : 100
cm3/1000 strokes : 50.0	- - CRT mm min. : > 19.00
cm3/1000 strokes : +- 0.5	- 17.00
Check tolerance	
cm3/1000s. : +- 2.0	- TORQUE CONTROL
Spreed	Poted around non 1450
Tolerance cm3/1000 strokes : 2.5	- Rated speed rpm : 1150 - rack travel mm : 8.85
Check tolerance	- Tolerance mm : +- 0.05
cm3/1000s. : 4.0	•
+	- Rated speed rpm : 500
+	rack travel mm : 10.65 Tolerance mm : +- 0.05
	. (Olerance mm · + (1 (1)

Rated speed rpm : 900 rack travel mm : 9.95 Tolerance mm : +- 0.15

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 500
Del. quantity

cm3/1000 strokes : 55.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

Aneroid pressure

nPa

Rated speed rpm : 900

Del. quantity

cm3/1000 strokes : 54.0

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.0

#### BREAKAWAY

Rack travel in mm: 7.90
Rated speed rpm: 1175
Tolerance 1/min: + 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

# LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 8.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.5

Spreed

cm3/1000S.

Check tolerance

Tolerance

cm3/1000 strokes : 4.0

. .

6.0

End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.04.96 : ISO 4113

Combination No. : 9 407 083 290

Injection pump

Pump designation : PES6A80D320RS1271 : 9 400 083 058 EP type number

Governer design. : RSV350...1000A1c2029

: -1R

Governer no.

: 9 420 083 285

Cust. part No.

Customer-spec. information Customer : MWM

Motor

: D 229-6

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 0 681 343 009 assembly

Opening pressure

173.5 bar 1.5 Tolerance bar

Test lines : 1 680 750 003

Outside diameter : 6.0

x inside diameter : 2.0 600 x length mm

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +-1.0

2.25 Prestroke mm : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Beginning of delivery differende

and maximum rack

travel 10.50 Tolerance mm : +- 1.50 Difference ° CS 4.50

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 9.75

: +- 0.05 Tolerance mm

Del. quantity cm3/1000 strokes : 49.5

Tolerance

cm3/1000 strokes : +- 0.5

Check tolerance cm3/1000s. : +-2.0

	1
Spreed Tolerance	CONTROL LEVER
cm3/1000 strokes : 2.5	+
Check tolerance	control lever position degree : 58.0
cm3/1000s. : 4.0	tolerance degree : + 4.0
Rated speed rpm : 350	control lever
	<pre>position degree : 108.0 tolerance degree : +- 4.0</pre>
Rack travel in mm: 7.00	+
Tolerance mm : +- 0.10 Del. quantity	RATED SPEED
cm3/1000 strokes : 8.5	rack travel mm : 8.70
Tolerance cm3/1000 strokes : +- 1.5	+ Rated speed rpm : 1045 + Tolerance 1/min : +- 5
Check tolerance cm3/1000s. : +- 3.5	rack travel mm : 4.00
cm3/1000s. : +- 3.5 Spreed	+ rack travel mm : 4.00 + Rated speed rpm : 1085
Tolerance cm3/1000 strokes : 4.0	Tolerance 1/min : +- 15
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 6.0	+ Tolerance mm : +- 0.55 + Rated speed rpm : 1200
	Traced speed (pill . 1200
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	‡ <u></u>
WITH GOVERNOR	LOW IDLE
	‡
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800	<pre>position degree : 80.0 tolerance degree : +- 4.0</pre>
	+
Rack travel in mm : 0.65 Tolerance mm : +- 0.35	control lever position degree : 30.0
	tolerance degree : +- 4.0
governor spring pre-tension	Setting point w/out bumper spring
click setting $x$ : 5.50	+
	+ Rated speed rpm : 350 + rack travel mm : 6.50
FULL LOAD DELIVERY AT FULL LOAD STOP	+
Rated speed rpm : 1000	† Testing: +
Aneroid pressure	Rated speed rpm : 350
hPa : - Del. quantity	+ rack travel mm : 7.00 + Tolerance mm : + 0.10
cm3/1000 strokes : 49.5	+
Tolerance cm3/1000 strokes : +- 0.5	rack travel mm : 2.00 Rated speed rpm : 555
Check tolerance	Tolerance 1/min : + 30
cm3/1000s. : +- 2.0 Spreed	+ Rated speed rpm : 100
Tolerance	+
cm3/1000 strokes : 2.5 Check tolerance	+ CRT mm min. : > 19.00
cm3/1000s. : 4.0	
	+ TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 9.75
Tolerance mm	: +- 0.05
Rated speed rpm	: 500
rack travel mm	: 11.25
Tolerance mm	: +- 0.05
Rated speed rpm	: 700
rack travel mm	: 10.75
Tolerance mm	: +- 0.15

FUEL	DEL	TVFRY	CHARAC	TERISTICS
1055	レレレ	TAFILL	CHANAC	I LIVIO I I CO

Aneroid pressure hPa	:	<del>-</del>
Rated speed rpm	:	500
Del. quantity		
cm3/1000 strokes	:	54.5
Tolerance		
cm3/1000 strokes	:	+- 1.5
Check tolerance		
cm3/1000s.	:	+- 3.0
Ameroid pressure		
hPa	:	_
Rated speed rpm	:	700
Del. quantity		
cm3/1000 strokes	:	54.0

cm3/1000 strokes : +- 1.5 Check tolerance 3.0 cm3/1000s. : +-

#### BREAKAWAY

Tolerance

Rack travel in mm: 8.70 Rated speed rpm : 1045 Tolerance 1/min : + 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

LOW IDLE

Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 8.5 Tolerance cm3/1000 strokes : +- 1.5 Check tolerance cm3/1000s. : +- 3.5 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. 6.0

# BOSCH INJ. PUMP TEST SPECIFICATIONS Note remarks Refer to Service Info for test and adjustment instructions. See microcard(s) W400/... Edition : 19.04.96 Test oil : ISO 4113 Combination No. : 9 407 083 296 Injection pump Pump designation : PES4A80D320RS1282 EP type number : 9 400 083 056 Governor Governer design. : RSV350...1500A2C2122 : -2R : 9 420 083 286 Soverner no. Cust. part No. Customer-spec. information Customer : MWM : D 229-4 Motor Power KW : 64.0 TEST BENCH REQUIREMENTS Inlet line : 3.1 Test oil inlet temp. °C 40 Tolerance °C Overflow valve : 1 419 992 198 Inlet press. bar : 1.5 Test nozzle holde : 0 681 343 009 assembly Opening pressure : 173.5 Tolerance bar Test lines : 1 680 750 003 Outside diameter : 6.0

<pre>x inside diameter : 2.0 x length mm : 600</pre>
REMARKS
(A) INJECTION PUMP SETTING VALUES Set equal delivery quant. per values
BEGINNING OF DELIVERY
Test pressure bar : 26.0 Tolerance bar : +- 1.0
Prestroke mm : 2.25 Tolerance mm : +- 0.05 Check tolerance mm : +- 0.10
Rack travel in mm : 10.50 Tolerance mm : + 1.50
Firing order : 1-3-4-2
Phasing : 0-90-180-270
Beginging of delivery differende
and maximum rack travel: 10.50 Tolerance mm: +- 1.50 Difference ° CS: 4.50
BASIC SETTING
Rated speed rpm : 1500
Rack travel in mm : 9.65 Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 62.0
Tolerance cm3/1000 strokes : +- 0.5
Check tolerance cm3/1000s. : +- 2.0
Spreed

Tolerance	+		
cm3/1000 strokes :	2.5		
-1		CONTROL LEVER	
Check tolerance	†		
cm3/1000s. :	4.0	control lever	
	750	position degree : 112.0	
Rated speed rpm :	350 +	tolerance degree : +- 4.0	
	†	DATES OFFE	
Dool Americal Sur am a	7.00	RATED SPEED	
Rack travel in mm : Tolerance mm :	7.00 +- 0.10	made through the second of the	
	<del>+-</del> 0.10	rack travel mm : 8.60 Rated speed rpm : 1575	
Del. quantity cm3/1000 strokes :	13.5	Rated speed rpm : 1575 Tolerance 1/min : +- 5	
Tolerance	13.3 I	Toterance Trining . + J	
cm3/1000 strokes :	+- 1.5	rack travel mm : 4.00	
Check tolerance	I	Rated speed rpm : 1625	
	+- 3.5	Tolerance 1/min : +- 15	
Spreed	1	Total and Triming	
Tolerance	1	rack travel mm : 0.85	
cm3/1000 strokes :	4.0	Tolerance mm : +- 0.55	
Check tolerance	1	Rated speed rpm : 1800	
cm3/1000s. :	6.0	Tracea speed i piii	
· · · · · · · · · · · · · · · · · · ·	1		
	1		
(B) SETTING OF INJE	CTION PUMP	LOW IDLE	
WITH GOVERNOR	+		
	+		
	+	control lever	
		position degree : 74.0	
GUIDE SLEEVE POSITION	ON +	tol, degree : +- 4.0	
	+		
Rated speed rpm :	<del>+</del> 008	Setting point w/out bumper spring	
	+		
Rack travel in mm :		Rated speed rpm : 350	
Toterance mm :	+- 0.35	rack travel mm : 6.50	
	†		
governor spring	†	Testing:	
pre-tension	, <u>so</u>	7.50	
click setting x :	4.50	Rated speed rpm : 350	
	†	rack travel mm : 7.00	
5111 1 040 DEL TUEDV	AT FULL LOAD STOD	Tolerance mm : + 0.10	
FULL LOAD DELIVERY	AT FULL LUAD STOP	rack travel mm : 2.00	
Rated speed rpm :	1500	rack travel mm : 2.00 Rated speed rpm : 650	
Aneroid pressure	1500 I	Tolerance 1/min : +- 30	
hPa :	_ I	Totalice Thirm	
Del. quantity	I	Rated speed rpm : 100	
cm3/1000 strokes :	62.0	nated speed (pill . 100	
Tolerance	1	CRT mm min. : > 19.00	
	+- 0.5		
Check tolerance			
	+ 2.0	TORQUE CONTROL	
Spreed	1		
Tolerance	+	Rated speed rpm : 1500	
cm3/1000 strokes :	2.5	rack travel mm : 9.65	
Check tolerance	+	Tolerance mm : +- 0.05	
cm3/1000s. :	4.0		
	+	Rated speed rpm : 500	
	+	rack travel mm : 10.75	
	+	Tolerance mm : +- 0.05	
	•		

Rated speed rpm : 800 rack travel mm : 10.50 Tolerance mm : + 0.10

Rated speed rpm : 1100 rack travel mm : 10.15 Tolerance mm : +- 0.15

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure
hPa :
Rated speed rpm : 50

Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 57.0

Tolerance

cm3/1000 strokes : + 1.5 Check tolerance

cm3/1000s. : +- 3.0

Aneroid pressure

hPa : - 800

Del. quantity cm3/1000 strokes : 60.5

Tolerance cm3/1000 strokes : +- 1.5

Check tolerance cm3/1000s. : +- 3.0

Aneroid pressure

hPa : - 1100

Del. quantity

cm3/1000 strokes : 63.5 Tolerance

loterance

cm3/1000 strokes : + 1.5

Check tolerance

cm3/1000s. :  $\leftarrow$  3.0

#### BREAKAWAY

Rack travel in mm: 8.60
Rated speed rpm: 1575
Tolerance 1/min: +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.00 Tolerance mm : +- 1.00

Del. quantity

cm3/1000 strokes : 100.0

Tolerance

cm3/1000 strokes : +- 8.0

Check tolerance

cm3/1000s. : +- 39.0

## LOW IDLE

Rated speed rpm : 350

Del. quantity

cm3/1000 strokes : 13.5

Tolerance

cm3/1000 strokes : +- 1.5

Check tolerance

cm3/1000s. : +- 3.5

Spreed Tolerance

cm3/1000 strokes : 4.0

Check tolerance

cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.05.96 : ISO 4113

Combination No. : 9 400 085 339

Injection pump

Pump designation : PES4A95D41ORS2774 EP type number : 9 400 084 019

Governor

Governer design. : RQV300...1300AB1066

: -11L

Governer no.

: 9 420 080 309

Cust. part No. : 0200742602

Customer-spec. information

Customer : MBB

Motor Power KW : OM 364 LA

: 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde assembly : 0 681 343 009

Opening pressure

: 173.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

DEM 13KS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.25 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.55

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 103.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: ÷~ 3.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 3.5

Check tolerance

cm3/1000s. : 8.0

Rated speed rpm : 300

Rack travel in mm	n: 7.00	+ Aneroid pressure + hPa + Del. quantity	: 800
Tolerance mm Del. quantity	: +- 0.10	+ cm3/1000 strokes + Tolerance	: 103.0
cm3/1000 strokes Tolerance	: 9.5	cm3/1000 strokes	: +- 1.0
cm3/1000 strokes Check tolerance	: <del>+</del> 2.0	- cm3/1000s. - Spreed	: +- 3.0
cm3/1000s. Spreed	: +- 4.5	Tolerance cm3/1000 strokes	: 3.5
Tolerance cm3/1000 strokes	: 5.5	+ Check tolerance + cm3/1000s.	: 8.0
Check tolerance cm3/1000s.	: 9.0	<u> </u>	
(B) SETTING OF IN	JECTION PUMP	CONTROL LEVER	
WITH GOVERNOR		control lever position degree tolerance degree	
GUIDE SLEEVE TRAV	'EL	control lever	4.0
Rated speed rpm guide sleeve travel mm	: 1350 : 8.20	position degree tolerance degree	
Tolerance mm	: 8.20 : +- 0.10	RATED SPEED	
Rated speed rpm guide sleeve		rack travel mm Rated speed rpm	
travel mm Tolerance mm	: 5.75 : + 0.25	Tolerance 1/min rack travel mm	
Rated speed rpm guide sleeve	: 300	Rated speed rpm Tolerance 1/min	: 1475
travel mm Tolerance mm	: 1.05 : +- 0.25	+ rack travel mm + Tolerance mm	: 0.50 : + 0.50
Rated speed rpm guide sleeve	: 700	Rated speed rpm	: 1630
travel mm Tolerance mm	: 4.25 : +- 0.25	100 7015	
Rated speed rpm guide sleeve	: 1450	LOW IDLE	
travel mm Tolerance mm	: 9.15 : +- 0.25	control lever position degree tolerance degree	
GUIDE SLEEVE POSI	TION	control lever position degree	: 20.0
Rated speed rpm	: 1395	tolerance degree	
Rack travel in mm Tolerance mm		Testing:	
	Y AT FULL LOAD STOP	Rated speed rpm rack travel mm Tolerance mm	: 300 : 7.00 : + 0.10
Rated speed rpm		Rated speed rpm	
nated speed (pill	. 1300	, matea opeca i più	

```
Check
800
                                      CRT mm min. : > 9.00
                                                                                             speed 1/min : < 270
                                      Rated speed rpm : 525
103.0
                                                                                             FUEL DELIVERY CHARACTERISTICS
 1.0
                                      TORQUE CONTROL
                                                                                             Aneroid pressure
                                                                                                                       800
 3.0
                                      Rated speed rpm : 1300 rack travel mm : 11.55 Tolerance mm : +- 0.05
                                                                                             Rated speed rpm : 700
                                                                                             Del. quantity
cm3/1000 strokes : 97.5
 3.5
                                                                                             Tolerance
                                      Rated speed rpm : 700 rack travel mm : 11.85
                                                                                             cm3/1000 strokes : +- 2.0
 0.8
                                      rack travel mm
                                                                                             Check tolerance
                                                          : +- 0.05
                                                                                             cm3/1000s.
                                                                                                                : +- 4.0
                                      Tolerance mm
                                      Rated speed rpm : 1100 rack travel mm : 11.7
                                                                                             Aneroid pressure
                                                               11.75
                                                          : +- 0.05
                                                                                             Rated speed rpm :
                                                                                                                      500
                                      Tolerance mm
63.0
                                                                                             Del. quantity cm3/1000 strokes : 59.0
                                      Rated speed rpm : 950 rack travel mm : 11.85 Tolerance mm : + 0.05
 4.0
                                                                                             Tolerance
                                                                                             cm3/1000 \text{ strokes} : +- 1.0
112.0
                                                                                             Check tolerance
                                                                                             cm3/1000s.
                                                                                                                : +- 3.0
                                      ANEROID/ALTITUDE
                                      COMPENSATOR TEST
                                                                                             BREAKAWAY
10.50
                                      SETTING
                                                                                            Rack travel in mm : 10.50
Rated speed rpm : 1360
Tolerance 1/min : +- 5
                                      Rated speed rpm :
                                                         : 800
: 11.85
: + 0.05
                                                                800
4.00
                                      Pressure hPa
475
                                      rack travel mm
                                      Tolerance mm
                                                                                             STARTING FUEL DELIVERY
0.50
                                      MEASUREMENT
0.50
                                                                                            Rated speed rpm : 100 rack travel mm : 13.40
630
                                      Pressure hPa
                                      Rated speed rpm :
                                                                500
                                                                                            Tolerance mm : +- 0.10 Del. quantity
                                                                500
                                      Rated speed rpm :
                                                                                             cm3/1000 strokes : 86.0
                                      Pressure hPa
                                                                500
                                                                                             Tolerance
                                      rack travel mm
                                                                                            Check tolerance : +- 10.0
                                                                1.45
                                                                                             cm3/1000 \text{ strokes} : +- 7.5
                                                         : +- 0.15
                                      Tolerance mm
68.0
                                      Pressure hPa : 360 rack travel mm : 0.40 Tolerance mm : ± 0.10
 4.0
20.0
                                                                                            LOW IDLE
 4.0
                                      START CUT-OUT
                                                                                            Rated speed rpm :
                                                                  100
                                      Rated speed rpm : >
                                                                                            Del. quantity
300
                                                                                             cm3/1000 strokes : 9.5
                                      Rated speed rpm : <
                                                                  250
7.00
                                                                                             Tolerance
                                                                                            cm3/1000 \text{ strokes} : +- 2.0
0.10
                                      Check
                                      speed 1/min :>
                                                                  80
                                                                                            Check tolerance cm3/1000s.
                                                                                                               : +- 4.5
                                      H15
```

cm3/1000 strokes : +- 15.0

Check tolerance : +- 19.0

: -- 19.0

theck tolerance

cm3/1000s.

Rated speed rpm :

rack travel mm :

560

-1.25

Pressure hPa

**MEASUREMENT** 

G15

15

100

-1.00

135

Spreed
Tolerance
cm3/1000 strokes :
Check tolerance
cm3/1000S. : 5.5

9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 09.05.96 Test oil : ISO 4113

Combination No. : 9 400 087 497

Injection pump

Pump designation : PES6P12OA12ORS3344 EP type number : 9 400 087 090

Governor

Governer design. : RQV350...1100PA1207

Governer no. : 9 420 080 379

Cust. part No. : 3355976

Customer-spec. information Customer : CUMMINS : 6 CTAA - 290 Motor

Power KW : 214.6

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 3.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.15 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 15.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Start of delivery blocking

\*NW after s.o.d. : 7.50 Tolerance : + 0.10 Check

tolerance \*NW : +- 0.23

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 15.55 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 207.0

Tolerance

cm3/1000 strokes : +- 1.0

Charle to Language	
Check tolerance cm3/1000s. : +- 4.0	GUIDE SLEEVE POSITION
Spreed Tolerance	Rated speed rpm : 1150
cm3/1000 strokes : 5.0	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Check tolerance cm3/1000S. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 325	+ FOLL LOAD DELIVERY AT FOLL LOAD STOP
	Rated speed rpm : 1100 Aneroid pressure
Rack travel in mm : 7.00	
Tolerance mm : +- 0.10	hPa : 1300 Del. quantity
Del. quantity	+ cm3/1000 strokes : 207.0
cm3/1000 strokes : 44.0 Tolerance	+ Tolerance + cm3/1000 strokes : +- 1.0
cm3/1000 strokes : +- 3.0	Check tolerance
Check tolerance	+  cm3/1000s. : +- 4.0
cm3/1000s. : +- 6.0	+ Spreed
Spreed	+ Tolerance
Tolerance cm3/1000 strokes : 8.0	cm3/1000 strokes : 5.0 Check tolerance
Check tolerance	+ cm3/1000s. : 9.0
cm3/1000s. : 12.0	
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 63.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
Rated speed rpm : 1150	control lever
guide sleeve travel mm : 8.40	<pre>position degree : 118.0 tolerance degree : +- 4.0</pre>
Tolerance mm : +- 0.10	+ cotte affect degree . • 4.0
Rated speed rpm : 650	RATED SPEED
guide sleeve	rack travel mm : 14.50
travel mm : 5.55	Rated speed rpm : 1150
Tolerance mm : +- 0.25	Tolerance 1/min : +- 5
Rated speed rpm : 350	rack travel mm : 4.00
guide sleeve travel mm : 1.55	+ Rated speed rpm : 1360 + Tolerance 1/min : +- 15
Tolerance mm : +- 0.25	Total artee 17 mm
	rack travel mm : 0.50
Rated speed rpm : 500	Tolerance mm : +- 0.50
guide sleeve travel mm : 4.05	+ Rated speed rpm : 1500
travel mm : 4.05 Tolerance mm : + 0.25	Ţ
Rated speed rpm : 1400 guide sleeve	LOW IDLE
travel mm : 10.55	+
Tolerance mm : +- 0.25	control lever position degree : 69.0

tolerance degree	: +- 4.0	+ Pressure hPa : 400
		rack travel mm : 1.10
control lever		+ Tolerance mm : +- 0.10
position degree	: 14.0	+
tolerance degree	: +- 4.0	
		+ START CUT-OUT
Testing:		† a
Detroi second non	. 725	+ Rated speed rpm : > 100
Rated speed rpm	: 325 : 7. <b>0</b> 0	+ Rated speed rpm : < 270
rack travel mm Tolerance mm	: + 0.10	T Check
TOTOL GITTO THE	. 0.10	+ speed 1/min : > 80
Rated speed rpm	: 100	+ Check
		+ speed 1/min : < 290
CRT mm min.	: > 9.50	+
<b>5</b>	776	
Rated speed rpm	: 375	+ FUEL DELIVERY CHARACTERISTICS
		Aneroid pressure
TORQUE CONTROL		hPa : 1300
. 011402 00111102		Rated speed rpm : 700
Rated speed rpm	: 1100	+ Del. quantity
rack travel mm Tolerance mm	: 15.55	+ cm3/1000 strokes : 217.0
Tolerance mm	: +- 0.05	† Tolerance
		cm3/1000 strokes : +- 2.0
Rated speed rpm	; 700	+ Check tolerance
rack travel mm		+ cm3/1000s. : +- 5.0
Tolerance mm	: +- 0.05	Aneroid pressure
Rated speed rpm	: 720	hPa : -
rack travel mm	: 15.95	Rated speed rpm : 500
Tolerance mm	: +- 0.05	Del. quantity
		+ cm3/1000 strokes : 125.0
Rated speed rpm	: 960	+ Tolerance
rack travel mm		+ cm3/1000 strokes : +- 1.0
Tolerance mm	: +- 0.05	+ Check tolerance
		+ cm3/1000s. : +- 4.0
ANEROID/ALTITUDE		<u> </u>
COMPENSATOR TEST		# BREAKAWAY
		+
		+
SETTING		+ Rack travel in mm : 14.50
<b>D</b> 1 1	500	+ Rated speed rpm : 1150
Rated speed rpm		Tolerance 1/min : +- 5
Pressure hPa rack travel mm	: 1300 : 15.95	Ţ
Tolerance mm		
TOCCI GITCC TIME	0.03	STARTING FUEL DELIVERY
MEASUREMENT		+
		Rated speed rpm : 100
Pressure hPa	:	rack travel mm : 20.00
Rated speed rpm	: 500	+ Tolerance mm : +- 1.00
التنسب التهديا	. 500	+ Del. quantity
Rated speed rpm	: 500	cm3/1000 strokes : 190.0 Tolerance
Pressure hPa	: 800	+
rack travel mm	: 2.75	Check tolerance
Tolerance mm	: +- 0.15	+ cm3/1000s. : +- 14.0
	· ••••	+

# LOW IDLE

325 Rated speed rpm :

Del. quantity cm3/1000 strokes : 44.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s.6.0

Spreed Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 22.05.96

Test oil

: ¿¿.uɔ.yo : ISO 4113

Combination No. : 0 402 736 905

Injection pump

Pump designation : PES6P120A120RS7416

EP type number : 0 412 726 959

Governor

Governer design. : RQV400...1250PA1060

: -3K

Governer no.

: 0 421 815 513

Cust. part No. : 3928145

Customer-spec. information Customer : CDC Motor : 6BTA-A

Power KW

: 119.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 093

Inlet press. bar : 2.0
Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

: 208.5

: + 1.5 Tolerance bar

Test Lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter :

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : +- 1.0

Prestroke mm : 3.60 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance "NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 6.25 Tolerance : +- 0.50

Tolerance

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 13.35

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes : 153.5	+ Rated speed rpm : 1690 + guide sleeve + travel mm : 11.50
Tolerance cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 4.0	FULL LOAD DELIVERY AT FULL LOAD STOP Rated speed rpm : 1250
Spreed	- + Rated speed rpm : 1250 - + Aneroid pressure
Tolerance cm3/1000 strokes : 8.0	hPa : 1200 Del. quantity cm3/1000 strokes : 153.5
Check tolerance cm3/1000s. : 12.0	Tolerance + cm3/1000 strokes : +- 1.0
Rated speed rpm : 420	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
Rack travel in mm : 6.00 Tolerance mm : +- 0.20	- cm3/1000 strokes : 8.0 - Check tolerance
Del. quantity cm3/1000 strokes : 15.5	cm3/1000s. : 12.0
Tolerance	+
cm3/1000 strokes : +- 3.0 Check tolerance	CONTROL LEVER
cm3/1000s. : +- 5.0	t control loven
Spreed Tolerance	<pre>+ control lever + position degree : 117.0</pre>
cm3/1000 strokes : 4.0	+ tolerance degree : +- 4.0
Check tolerance cm3/1000s. : 8.0	RATED SPEED
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	rack travel mm : 12.30 Rated speed rpm : 1325 Tolerance 1/min : +- 15
GUIDE SLEEVE TRAVEL	+ rack travel mm : 4.00 + Rated speed rpm : 1475
Rated speed rpm : 400	Tolerance 1/min : +- 5
guide sleeve	rack travel mm : 0.50
travel nm : 1.44 Tolerance mm : + 0.20	Tolerance mm : + 0.50 Rated speed rpm : 1550
Rated speed rpm : 1329 guide sleeve	
travel mm : 7.83 Tolerance mm : +- 0.15	LOW IDLE
	+
Rated speed rpm : 939 guide sleeve	<pre>+ control lever + position degree : 71.0</pre>
travel mm : 5.18	tolerance degree : +- 4.0
Tolerance mm : +- 0.25	† Testing:
Rated speed rpm : 640	+ Rated speed rpm : 420
guide sleeve travel mm : 3.56	+ Rated speed rpm : 420 + rack travel mm : 6.00
Tolerance mm : +- 0.25	Tolerance mm : +- 0.20
	1

Rated speed rpm		+ Check + speed 1/min : < 290
CRT mm min.	: > 5.80	<u> </u>
Rated speed rpm	: 425	FUEL DELIVERY CHARACTERISTICS
TORQUE CONTROL		Aneroid pressure hPa: 1200 Rated speed rpm: 800
Rated speed rpm	: 1250	→ Del. quantity
rack travel mm Tolerance mm	: 13.35 : +- 0.05	cm3/1000 strokes : 133.0 Tolerance
Rated speed rom	: 800	cm3/1000 strokes : +- 3.0 Check tolerance
rack travel mm Tolerance mm	: 12.00	+ cm3/1000s. : +- 6.0
		+ Spreed + Tolerance
Rated speed rpm rack travel mm Tolerance mm	: 500	→ cm3/1000 strokes : 8.0
rack travel mm Tolerance mm	: +- 0.20	Check tolerance : 12.0
		+
Rated speed rpm rack travel mm	: 900 · 12.40	+ Aneroid pressure + hPa : -
Tolerance mm	: +- 0.20	+ Rated speed rpm : 1250
		+ Del. quantity 
ANEROID/ALTITUDE		+ Tolerance
COMPENSATOR TEST		cm3/1000 strokes : +- 1.0 Check tolerance
		+ cm3/1000s. : + 3.0
SETTING		+
Rated speed rpm Pressure hPa	: 1250 : 1200	BREAKAWAY
MEASUREMENT		+ + Rack travel in mm : 12.30
		+ Rated speed rpm : 1325
Pressure hPa Rated speed rpm	: : 1250	Tolerance 1/min : +- 15
rack travel mm	: 10.40	+
Tolerance mm	: +- 0.20	STARTING FUEL DELIVERY
Rated speed rpm	: 1250	+
Pressure hPa	: 350	Rated speed rpm : 100 rack travel mm : 13.50
rack travel mm	: 12.70	+ rack travel mm : 13.50 + Tolerance mm : + 0.50
Tolerance mm	: +- 0.30	Del. quantity
Pressure hPa	: 265	+ cm3/1000 strokes : 155.0 + Tolerance
rack travel mm	: 11.80	cm3/1000 strokes : +- 20.0
Tolerance mm	: +- 0.20	+ Check tolerance + cm3/1000s. : +- 25.0
START CUT-OUT		
Rated speed rpm	: > 100	İ
Rated speed rpm		E LOW IDLE
Check speed 1/min	: > 80	Rated speed rpm : 420

H23

Del. quantity cm3/1000 strokes	:	15.5
Tolerance cm3/1000 strokes	: +-	3.0
Check tolerance cm3/1000S. Spreed	: +-	5.0
Tolerance cm3/1000 strokes	•	4.0
Check tolerance cm3/1000s.	:	8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.05.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 496 003

Injection pump

Pump designation : PE6R120/720RS1504

EP type number : 0 411 426 003

Governor

Governer design. : RE31

: 0 421 890 200 Governer no.

: 1556415 Cust. part No.

: -P08 v. 12/95

Customer-spec. information

: VOLVO-TRUCK Customer

Motor : TD 164 Power KW : 382.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

40 temp. °C Tolerance °C

: 2 417 413 078 Overflow valve

Inlet press. bar : 2.5 Tolerance bar : +- 0.1

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

208.5 : +- 1.5 Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-

Prestroke mm 5.45 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance \*NW : + - 0.75

Start of delivery mark

Barrel no. :

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR

POSITION

Engine speed min-1: 0	+ Amplitude V : 1.4 + Tolerance V : +/- 0.6
Setting point	+ Check
(P, R and H pump)	+ tolerance V : +/- 1.20
Uact V : 3.100	Engine speed min-1: 600
CRT mm : 13.00	+ Difference
Tolerance mm : +/- 0.05	+ Amplitude to
Check	+ Amplitude V : max.1.4
tolerance mm : +/- 0.10	+
	+
Check value	(C) THE STAND DUMP LITTLE DOCUMENTS
(P, R and H pump)	(C) INJECTION PUMP WITH POSITIONER
	TEST POINT V1
Uact V : 1.700	I 1531 FOTIAL AL
CRT mm : 6.15	Rated speed rpm : 525
Tolerance mm : +/- 0.25	+ Uact V : 2.950
Check	+ Del. quantity
tolerance mm : +/- 0.30	+ cm3/1000 strokes : 390.0
	+ Tolerance
	+ cm3/1000 strokes : +- 1.0
Setting point	+ Check tolerance
(M pump)	+ cm3/1000s. : +- 4.0
Uact V : 3.100	+ Spreed
Uact V : 3.100 CRT mm : 12.50	+ Tolerance + cm3/1000 strokes : 6.0
Toterance mm : +/- 0.05	Check tolerance
Check	+ cm3/1000s. : 10.0
tolerance mm : +/- 0.10	+
	+ FUEL DELIVERY CHARACTERISTICS
Check value	+
(M pump)	+ Rated speed rpm : 900
4 700	+ Uact V : 3.240
Uact V : 1.700	Del. quantity
CRT mm : 5.50 Tolerance mm : +/- 0.25	+ cm3/1000 strokes : 386.0 + Tolerance
Check	+ cm3/1000 strokes : +- 3.0
tolerance mm : +/- 0.30	+ Check tolerance
	+  cm3/1000s. : + 6.0
Stop position	Spreed
·	+ Tolerance
Uact V : Value with	+ cm3/1000 strokes : 9.0
deenergised adjusting magnet	Check tolerance
and control rod in	+ cm3/1000s. : 13.0
stop position. CRT mm : 0.75	Rated speed rpm : 900
CRT mm : 0.75 Tolerance mm : +/- 0.25	+ Rated speed rpm : 900 + Uact V : 2.000
Check	Del. quantity
tolerance mm : +/- 0.35	cm3/1000 strokes : 163.0
	Tolerance
	+ cm3/1000 strokes : + 3.0
ENGINE-SPEED SENSOR	+ Check tolerance
(All P and R pumps not	+ cm3/1000s. : $+$ 6.0
H and M pumps)	TEST POINT 14
Tark of the same and same	TEST POINT L1
Test with control rod	Rated speed rpm : 265
in stop position	+ Rated speed rpm : 265 + Uact V : 1.630
Engine speed min-1: 60	Tolerance Volt : + 0.060
angine opeca min i. oo	1 .366.41.66 4066 1 . 01.000

H26

Check tolerance Volt	: +- 0.060
Del. quantity	40.0
cm3/1000 strokes Tolerance	: 19.0
cm3/1000 strokes	: +- 3.0
Spreed	. 0.0
Tolerance	
cm3/1000 strokes	: 7.0
Check tolerance cm3/1000s.	: 11.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 22.05.96 Edition : ISO 4113 Test oil

Combination No. : 0 401 876 801

Injection pump

Pump designation : PE6P12OA32ORS3375 EP type number : 0 411 826 817

Governor

Governer design. : RSV250...900P0A646

: 0 421 833 562 Governer no.

Cust. part No. : 3826154 P01 v.11/95

Customer-spec. information Customer : PENTA : TWD 710P Motor : 153.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 240 Tolerance L/h : +- 20.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 2.65 Tolerance mm : +- 0.05 Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance "NW : +- 0.50

Start of delivery mark

Barrel no.

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm : 8.15

Tolerance mm : +- 0.05 -	† Tolerance
THE THE THE TOTAL THE PERSONNEL THE THE THE THE THE THE THE THE THE THE	cm3/1000 strokes : +- 1.0
Del. quantity -	Check tolerance
cm3/1000 strokes : 155.0 -	cm3/1000s. : +- 4.0
Tolongue	Spreed Tolerance
Tolerance - cm3/1000 strokes : +- 1.0 -	cm3/1000 strokes : 5.0
Chis/ rood strokes : += 1.0	Check tolerance
Check tolerance	cm3/1000s. : 9.0
cm3/1000s. : +- 4.0	
Spreed	
Tolerance	CONTROL LEVER
cm3/1000 strokes : 5.0	
Charle to Language	control lever
Check tolerance - cm3/1000s. : 9.0 -	position degree : 37.0 tolerance degree : +- 4.0
Ciii37 10003 9.0	L toterance degree . +- 4.0
Rated speed rpm : 250	control lever
- managed and a second a second and a second and a second and a second and a second and a second and a second and a second and a second and a second a second and a second and a second and a second and a second and	position degree : 87.0
· ·	tolerance degree : +- 4.0
Rack travel in mm : 4.80	
Tolerance mm : + 0.10	RATED SPEED
Del. quantity	<del>-</del>
cm3/1000 strokes : 23.0	rack travel mm : 7.15
Tolerance	Rated speed rpm : 920
cm3/1000 strokes : +- 3.0 Check tolerance	Tolerance 1/min : +- 5
cm3/1000s. : +- 5.0	rack travel mm : 4.00
Spreed	Rated speed rpm : 955
Tolerance	Tolerance 1/min : +- 15
cm3/1000 strokes : 5.0	
Check tolerance	rack travel mm : 0.85
cm3/1000s. : 8.0	- Tolerance mm : + 0.55
+	Rated speed rpm : 1050
<del></del>	
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	- LOW IDLE
	L COM IDEE
	-
GUIDE SLEEVE POSITION	- control lever
<del>)</del>	position degree : 69.0
Rated speed rpm : 800	tolerance degree : +- 4.0
+	-
Rack travel in mm : 0.50	control lever
Tolerance mm : +- 0.20	- position degree : 19.0
governor spring	- tolerance degree : +- 4.0
governor spring pre-tension	- - Setting point w/out bumper spring
click setting x : 2.00	- occord bottle woode bumber opining
	- Rated speed rpm : 250
	- rack travel mm : 4.30
FULL LOAD DELIVERY AT FULL LOAD STOP	-
<del></del>	- Testing:
Rated speed rpm : 700	
Aneroid pressure	- Rated speed rpm : 250
hPa : - +	- rack travel mm : 4.80 - Tolerance mm : +- 0.10
Del. quantity + cm3/1000 strokes : 155.0 +	- Tolerance mm : +- 0.10
cm3/1000  strokes: 155.0 +	<del>.</del>

rack travel mm : 2.00 Rated speed rpm : 335 Tolerance 1/min : +- 30

# TORQUE CONTROL

Rated speed rpm : 700 rack travel mm : 8.15 Tolerance mm : + 0.05

## BREAKAWAY

Rack travel in mm: 7.15
Rated speed rpm: 920
Tolerance 1/min: +- 5

## LOW IDLE

250 Rated speed rpm : Del. quantity cm3/1000 strokes : 23.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 5.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance cm3/1000s. 8.0 :

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 20.05.96 Edition Test oil : ISO 4113

Combination No. : 0 401 878 140

Injection pump

Pump designation : PE8P120A520/5RS427

EP type number : 0 411 828 048

Governor

Governer design. : RSUV300...900P0A320

: -1

: 0 421 829 107 Governer no.

Cust. part No. :

Customer-spec. information Customer : MWM

: TBD 234 V8 Motor Power KW : 400.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3
x length mm : 1000 3.0

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm 2.85 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : : +- 1.50

Tolerance mm

Firing order : 1-8-5-4-7

: - 2- 3- 6

Phasing : 0-30-90-120-180

: -210-270-300

: +- 0.50 Tolerance

Check

: + 0.75 tolerance °NW

Start of delivery mark

Tolerance : +- 0.50

Check

: +- 0.75 tolerance \*NW

: 1 Barrel no.

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 13.75

Tolerance mm : +~ 0.05

Del. quantity

cm3/1000 strokes : 250.0

J03

Tolerance cm3/1000 strokes	: +- 1.0 ‡	Tolerance cm3/1000 strokes : 5.0 Check tolerance
Check tolerance cm3/1000s.	: +- 4.0	cm3/1000s. : 9.0
Spreed Tolerance cm3/1000 strokes	: 5.0	CONTROL LEVER
Check tolerance cm3/1000s.	: 9.0	position degree : 119.0 tolerance degree : +- 4.0
Rated speed rpm	: 300	RATED SPEED
Rack travel in mm Tolerance mm Del. quantity	: 5.60 : + 0.10	rack travel mm : 12.70 Rated speed rpm : 945 Tolerance 1/min : +- 5
cm3/1000 strokes Tolerance	+	rack travel mm : 4.00 Rated speed rpm : 980
cm3/1000 strokes Check tolerance cm3/1000s.	: + 3.0 + + + + + + + + + + + + + + + + + + +	Tolerance 1/min : +- 15 rack travel mm : 0.85
Spreed Tolerance cm3/1000 strokes	: 8.0	Tolerance mm : +- 0.55 Rated speed rpm : 1130
Check tolerance cm3/1000s.	: 12.0	LOW IDLE
(B) SETTING OF INJ WITH GOVERNOR	JECTION PUMP +	<pre>control lever position degree : 76.0 tolerance degree : +- 4.0</pre>
GUIDE SLEEVE POSIT	rion	Setting point w/out bumper spring
Rated speed rpm	: 800	Rated speed rpm : 300 rack travel mm : 5.10
Rack travel in mm Tolerance mm		Testing:
governor spring pre-tension click setting x	: 3.80	Rated speed rpm : 300 rack travel mm : 5.60 Tolerance mm : +- 0.10
FULL LOAD DELIVERY	' AT FULL LOAD STOP	rack travel mm : 2.00 Rated speed rpm : 350 Tolerance 1/min : +- 30
Aneroid pressure	+	
hPa Del. quantity cm3/1000 strokes	: 250.0	TORQUE CONTROL  Dimension a mm : 3.90
Tolerance cm3/1000 strokes	+	Rated speed rpm : 750 rack travel mm : 13.75
Check tolorance cm3/1SDCs. Spreed	: +- 4.0	Tolerance mm : +- 0.05  Rated speed rpm : 900
-p-1 00m	•	

rack travel mm : 13.75 : +- 0.10 Tolerance mm

: 450 Rated speed rpm rack travel mm 13.75 : +- 0.10 Tolerance mm

Rated speed rpm : 280 rack travel mm : 15.20 Tolerance mm : + 0.30 Rated speed rpm : 280

### BREAKAWAY

Rack travel in mm : 12.70 Rated speed rpm : Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100

### LOW IDLE

300 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 23.0

Tolerance

cm3/1000 strokes : +-3.0

Check tolerance

cm3/1000s. 6.0 : +-

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

12.0 cm3/1000s.

### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 12.06.96 : ISO 4113

Combination No. : 0 400 876 430

Injection pump

Pump designation : PES6A95D41ORS2864

EP type number : 0 410 896 888

Governor

Governer design. : RSV400...1050A0C2263

: -10L

Governer no.

: 0 420 232 619

Cust. part No.

: 87 800 862

Customer-spec. information

Customer

: FNH-GEOTECH

Motor

: P 396

: 142.0 Power KW

## TEST BENCH REQUIREMENTS

Inlet line

: 1.3

Test oil inlet

temp. °C

Tolerance °C

2.0

Overflow valve

: 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 5 688 901 101

Opening pressure

bar

208.5

Tolerance bar

Test lines

: 1 680 750 008

Outside diameter : 6.0

J06

x inside diameter : 2.0 600 x length mm

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm 2.60

Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50

: +- 1.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

750 Rated speed rpm

Rack travel in mm: 15.20

: +- 0.05 Tolerance mm

Del. quantity

cm3/1000 strokes : 154.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

3.0

Spreed

Tolerance

cm3/1000 strokes : 3.5

	1
Check tolerance cm3/1000s. : 8.0	control lever position degree : 97.0 tolerance degree : +- 4.0
Rated speed rpm : 450	‡
5.50	ASSEMBLY GOVERNOR SETTING
Rack travel in mm : 5.50 Tolerance mm : +- 0.10 Del. quantity	Rated speed rpm : 1093 rack travel mm : 12.40
cm3/1000 strokes : 15.0 Tolerance	Rated speed rpm : 1158
cm3/1000 strokes : +- 2.0 Check tolerance	Tolerance 1/min : +- 5 + rack travel mm : 4.00
cm3/1000s. : +- 4.5	+
Spreed Tolerance	rack travel mm : 0.85 Tolerance mm : +- 0.55
cm3/1000 strokes : 5.5 Check tolerance	Rated speed rpm : 1270
cm3/1000s. : 9.0	Rated speed rpm : 1094 rack travel mm : 12.40
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	Rated speed rpm : 1159 Tolerance 1/min : +- 5 rack travel mm : 4.00
GUIDE SLEEVE POSITION	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1270
Rated speed rpm : 800	+
Rack travel in mm : 0.50 Tolerance mm : + 0.20	Rated speed rpm : 1095 rack travel mm : 12.40
governor spring pre-tension click setting x : 4.00	Rated speed rpm : 1160 Tolerance 1/min : +- 5 rack travel mm : 4.00
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1270
Rated speed rpm : 750 Aneroid pressure hPa : 1200	Rated speed rpm : 1096 rack travel mm : 12.40
Del. quantity cm3/1000 strokes : 154.0 Tolerance	Rated speed rpm : 1161 Tolerance 1/min : +- 5 rack travel mm : 4.00
cm3/1000 strokes : +- 1.0 Check tolerance	+ rack travel mm : 0.85
cm3/1000s. : +- 3.0 Spreed Tolerance	Tolerance mm : + 0.55 Rated speed rpm : 1270
cm3/1000 strokes : 3.5 Check tolerance	Rated speed rpm : 1097 rack travel mm : 12.40
cm3/1000s. : 8.0	Rated speed rpm : 1162 Tolerance 1/min : +- 5 rack travel mm : 4.00
CONTROL LEVER	rack travel mm : 0.85

Tolerance mm	: +- 0.55
Rated speed rpm	: 1270
Rated speed rpm	: 1098
rack travel mm	: 12.40
Rated speed rpm	: 1163
Tolerance 1/min	: +- 5
rack travel mm	: 4.00
rack travel mm	: 0.85
Tolerance mm	: +- 0.55
Rated speed rpm	: 1270
LOW IDLE	
control lever position degree tolerance degree	: 73.0 : +- 4.0
Setting point w/c	out bumper spring
Rated speed rpm	: 450
rack travel mm	: 5.00
Testing:	
Rated speed rpm rack travel mm Tolerance mm	
rack travel mm	: 2.00
Rated speed rpm	: 575
Tolerance 1/min	: +- 30
TORQUE CONTROL	
Rated speed rpm	: 750
rack travel mm	: 15.20
Tolerance mm	: +- 0.05
Rated speed rpm	: 500
rack travel mm	: 15.25
Tolerance mm	: +- 0.10
Rated speed rpm	: 1050
rack travel mm	: 12.90
Tolerance mm	: +- 0.05
Rated speed rpm	: 1050
rack travel mm	: 13.40
Tolerance mm	: +- 0.10
Rated speed rpm	: 950
rack travel mm	: 14.25
Tolerance mm	: +- 0.10

ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1200 : 15.25 : +- 0.10	
MEASUREMENT		
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.20 : +- 0.05	
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 750 : 13.70 : +- 0.05	
Pressure hPa rack travel mm Tolerance mm	: 500 : 11.50 : +- 0.20	
FUEL DELIVERY CHARACTERISTICS		
Aneroid pressure		
Rated speed rpm Del. quantity	500	
cm3/1000 strokes	: 76.5	
Tolerance cm3/1000 strokes	: <b>←</b> 1.0	
Check tolerance cm3/1000s.	: +- 3.0	
STARTING FUEL DEL	IVERY	
Rated speed rpm rack travel mm Tolerance mm Del. quantity	: 100 : 20.00 : + 0.20	
cm3/1000 strokes	: 160.0	

rack travel mm	:	20.00
Tolerance mm	: +-	
Del. quantity		
cm3/1000 strokes	:	160.0
Tolerance		
cm3/1000 strokes	: +-	8.0
Check tolerance		
cm3/1000s.	: +-	11.0

# LOW IDLE

Rated speed rpm 450 Del. quantity cm3/1000 strokes : 15.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 4.5 Spreed Tolerance 5.5 cm3/1000 strokes : Check tolerance cm3/1000s. 9.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 29.05.96 Test oil : ISO 4113

Combination No. : 9 400 030 750

Injection pump

Pump designation : PES4A95D320/3RS2880

EP type number : 9 410 037 214

Governor

Governer design. : RSV475...1100A0C865R

Governer no. : F 002 A20 201

Cust. part No. : 3930156

Customer-spec. information Customer : CUMMINS

Motor : CUMMINS-4BTA-3.9

Power KW : 79.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C : 40 Tolerance °C : + 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter: 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 2.45
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-3-4-2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 9.00

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.29

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

They had been found from 1920 field from had been found from the first first from the first from

Rack travel in mm : 13.30 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 115.0

J10

Tolerance	→ Tolerance
cm3/1000 strokes : +- 1.0	+ cm3/1000 strokes : 4.0
	+ Check tolerance
Check tolerance	+ cm3/1000s. : 6.5
cm3/1000s. : +- 3.0	+
	MA DAD TO THE THE TAX THE TAX
Spreed	CONTROL LEVED
Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
CIRST TOOD SET ONES . 4.0	T control lever
Check tolerance	position degree : 98.0
cm3/1000s. : 6.5	+ tolerance degree : +- 4.0
	+
Rated speed rpm : 475	+ RATED SPEED
	†
D al. 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	rack travel mm : 12.30
Rack travel in mm: 6.25	+ Rated speed rpm : 1110 + Tolerance 1/min : +- 5
Tolerance mm : +- 0.10	Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 22.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1190
cm3/1000 strokes : +- 2.0	+ Tolerance 1/min : + 15
Check tolerance	+
cm3/1000s. ; +- 4.5	rack travel mm : 0.85
Spreed	+ Tolerance mm : +- 0.55
Tolerance	+ Rated speed rpm : 1260
cm3/1000 strokes : 6.0	†
Check tolerance	+ rack travel mm : 4.00
cm3/1000s. : 8.0	Rated speed rpm : 1195
	†
(D) SETTING OF INTESTION DUMP	Ţ
(B) SETTING OF INJECTION PUMP	I OW TRIF
WITH GOVERNOR	LOW IDLE
_	LOW IDLE
_	LOW IDLE  control lever
_	control lever position degree : 78.0
WITH GOVERNOR  GUIDE SLEEVE POSITION	control lever
WITH GOVERNOR	control lever position degree : 78.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION Rated speed rpm : 800	control lever position degree : 78.0
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring
GUIDE SLEEVE POSITION Rated speed rpm : 800	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50  Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00
GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565 Tolerance 1/min : +- 30
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 115.0	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 115.0 Tolerance	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565 Tolerance 1/min : +- 30  Rated speed rpm : 100
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 115.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565 Tolerance 1/min : +- 30
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 115.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565 Tolerance 1/min : +- 30  Rated speed rpm : 100
WITH GOVERNOR  GUIDE SLEEVE POSITION  Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 2.50  FULL LOAD DELIVERY AT FULL LOAD S  Rated speed rpm : 1050 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 115.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 78.0 tolerance degree : +- 4.0  Setting point w/out bumper spring  Rated speed rpm : 475 rack travel mm : 5.75  Testing:  Rated speed rpm : 475 rack travel mm : 6.25 Tolerance mm : +- 0.10  rack travel mm : 2.00 Rated speed rpm : 565 Tolerance 1/min : +- 30  Rated speed rpm : 100

Rated speed rpm 1050 : rack travel mm 13.30 Tolerance mm : +- 0.05 Rated speed rpm 750 14.30 rack travel mm Tolerance mm : +- 0.20 ANEROID/ALTITUDE COMPENSATOR TEST SETTING

Pressure hPa 500 Rated speed rpm 10.90 rack travel mm Tolerance mm : +- 0.20

Rated speed rpm

Pressure hPa

**MEASUREMENT** 

500

900

Rated speed rpm 500

Pressure hPa 600 13.30 rack travel mm : +- 0.20 Tolerance mm

400 Pressure hPa 12.10 rack travel mm Tolerance mm : +- 0.20

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

900 750 Rated speed rpm

Del. quantity

129.2 cm3/1000 strokes :

Tolerance

2.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s.4.0

Aneroid pressure

hPa 500 Rated speed rpm

Del. quantity

71.8 cm3/1000 strokes :

Tolerance

1.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000s. : +--3.0 BREAKAWAY

Rack travel in mm : 12.30 Rated speed rpm : 1110

Tolerance 1/min : +-

STARTING FUEL DELIVERY

100 Rated speed rpm 20.50 rack travel mm Tolerance mm : +- 0.50

Del. quantity

cm3/1000 strokes : 121.4

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/,000s. : +- 15.0

LOW IDLE

Rated speed rpm : 475

Del. quantity

cm3/1000 strokes : 22.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  2.0

Check tolerance

cm3/1000s. : +-4.5

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 11.06.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 046 866

Injection pump

Pump designation : PES6P120A720RS3346 EP type number : 0 412 026 778

Governor

Governer design. : RQ300/1025PA1213 : 0 421 801 783 Governer no.

Cust. part No. :

Customer-spec. information : IVECO-FIAT Customer Motor : 8360.46.4649

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 034

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.55 : +- 0.05 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : -- 0.30

Check

: +- 0.50 tolerance °NW

BASIC SETTING

Rated speed rpm : 1025

Rack travel in mm : 11.90 Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 175.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance cm3/1000s.

: +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s. : 9.0	† Tolerance 1/min : +- 15
	rack travel mm : 0.50
Rated speed rpm : 300	+ Tolerance mm : +- 0.50
	+ Rated speed rpm : 1300
Rack travel in mm : 5.50	†
Tolerance mm : +- 0.10	Ť
Del. quantity	T LOW IDLE
cm3/1000 strokes : 20.0	-
Tolerance	+
cm3/1000 strokes : +- 3.0	+ control lever
Check tolerance	+ position degree : 70.0
cm3/1000s. : +- 6.0	+ tolerance degree : + 4.0
Spreed	†
Tolerance	+ Testing:
cm3/1000 strokes : 8.0	Potent annual annual 700
Check tolerance cm3/1000s. : 12.0	+ Rated speed rpm : 300 + rack travel mm : 5.50
cm3/1000s. : 12.0	+ Tolerance mm : + 0.10
	I rocerance min : += 0.10
(B) SETTING OF INJECTION PUMP	rack travel mm : 2.00
WITH GOVERNOR	Rated speed rpm : 380
	+ Tolerance 1/min : +- 20
	+
	+ Rated speed rpm : 200
GUIDE SLEEVE POSITION	†
Detroit access now 550	+ CRT mm min. : > 7.00
Rated speed rpm : 550	†
	T
Pack travel in mm · 14 30	TOPOLIE CONTROL
Rack travel in mm : 14.30 Tolerance mm : + 0.80	TORQUE CONTROL
Rack travel in mm : 14.30 Tolerance mm : + 0.80	+
	TORQUE CONTROL  Rated speed rpm : 1025  rack travel mm : 11.90
	Rated speed rpm : 1025
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 1025 + rack travel mm : 11.90 + Tolerance mm : + 0.05
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025	Rated speed rpm : 1025  rack travel mm : 11.90  Tolerance mm : + 0.05  Rated speed rpm : 500
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure	Rated speed rpm : 1025  rack travel mm : 11.90  Tolerance mm : + 0.05  Rated speed rpm : 500  rack travel mm : 11.95
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900	Rated speed rpm : 1025  rack travel mm : 11.90  Tolerance mm : + 0.05  Rated speed rpm : 500
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 500 rack travel mm : 12.40
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  RATED SPEED	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000s strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  RATED SPEED  rack travel mm : 10.90	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  rack travel mm : 10.90 Rated speed rpm : 1078	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING Rated speed rpm : 500
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  RATED SPEED  rack travel mm : 10.90 Rated speed rpm : 1078	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING Rated speed rpm : 500
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  RATED SPEED  rack travel mm : 10.90 Rated speed rpm : 1078 Tolerance 1/min : +- 8  rack travel mm : 4.00	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 500 Pressure hPa : 900
Tolerance mm : + 0.80  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1025 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 175.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000 strokes : 9.0  RATED SPEED  rack travel mm : 10.90 Rated speed rpm : 1078 Tolerance 1/min : + 8	Rated speed rpm : 1025 rack travel mm : 11.90 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 11.95 Tolerance mm : + 0.10  Rated speed rpm : 1025 rack travel mm : 12.35 Tolerance mm : + 0.05  Rated speed rpm : 500 rack travel mm : 12.40 Tolerance mm : + 0.10  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING  Rated speed rpm : 500 Pressure hPa : 900 rack travel mm : 11.90

#### **MEASUREMENT**

Pressure hPa Rated speed rpm 500 rack travel mm 9.60 Tolerance mm : +- 0.10

Rated speed rpm 500

Pressure hPa 270 10.00 rack travel mm : + 0.20 Tolerance mm

500 Pressure hPa : 11.30 rack travel mm Tolerance mm : +- 0.05

## FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

900 hPa 500 Rated speed rpm

Del. quantity

cm3/1000 strokes : 168.0

Tolerance

3.0 cm3/1000 strokes : +-

Check tolerance

cm3/1000S.6.0

Aneroid pressure

hPa Rated speed rpm 500 Del. quantity

cm3/1000 strokes : 102.0

Tolerance

cm3/1000 strokes : +-1.0

Check tolerance

cm3/1000S.4.0

### **BREAKAWAY**

10.90 Rack travel in mm : Rated speed rpm : 1078 Tolerance 1/min

## STARTING FUEL DELIVERY

100 Rated speed rpm

Del. quantity

cm3/1000 strokes : 90.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance cm3/1000s. : +- 19.0

LOW IDLE

Rated speed rpm 300 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance 8.0

cm3/1000 strokes :

Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 07.06.96 : ISO 4113

Combination No. : 0 402 640 845

Injection pump

Pump designation : PE12P120A320LS7896

EP type number

: 0 412 620 847

Governor

Governer design. : RQV350...1050PA1306

Governer no.

: 0 421 814 179

Cust. part No. : 0270749102

Customer-spec. information Customer : MB-NFZ : OM 444 LA Motor Power KW : 500.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 160 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar

Test lines : 1 680 750 075

Outside diameter : 6.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

: 5.25 Prestroke mm Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

Firing order : 12- 1- 5- 9- 8

: - 3- 4- 11- 10 : - 2- 6- 7

: 0-45-60-105-120 Phasing

: -165-180-225-240

: -285-300-345 : +- 0.30

Tolerance

Check

tolerance °NW : +- 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 15.10

Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 227.5

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance	- guide sleeve
cm3/1000s. : +- 4.0	- travec mm : 1.50
1	- Tolerance mm : +- 0.50
Spreed	- Toterarice min
Tolerance	
	CUIDE CLEEUE DOCITION
cm3/1000 strokes : 6.0	- GUIDE SLEEVE POSITION
	7451
Check tolerance	- Rated speed rpm : 1154
cm3/1000s. : 10.0	-
†	- Rack travel in mm : 14.10
Rated speed rpm : 350	- Tolerance mm : +- 1.30
+	-
+	
Rack travel in mm: 5.70	- FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : +- 0.10	-
Del. quantity	- Rated speed rpm : 1050
cm3/1000 strokes : 19.0	- Aneroid pressure
Tolerance	- hPa : 1300
cm3/1000 strokes : +- 3.0	Del. quantity
Check tolerance	- cm3/1000 strokes : 227.5
cm3/1000s. : +- 6.0	Tolerance
	- cm3/1000 strokes : +- 1.0
Spreed	
Tolerance +	- Check tolerance
cm3/1000 strokes : 8.0	cm3/1000s. : +- 4.0
Check tolerance +	- Spreed
cm3/1000s. : 12.0 +	Tolerance
+	- cm3/1000 strokes : 6.0
+	- Check tolerance
(B) SETTING OF INJECTION PUMP	- cm3/10GOs. : 10.0
1	
WITH GOVERNOR +	•
WITH GOVERNOR	•
WITH GOVERNOR	
	CONTROL LEVER
WITH GOVERNOR  GUIDE SLEEVE TRAVEL	CONTROL LEVER
GUIDE SLEEVE TRAVEL	
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350	· control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve	- control lever - position degree : 119.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48	· control lever
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20	- control lever - position degree : 119.0
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107	control lever position degree : 119.0 tolerance degree : +- 4.0 RATED SPEED
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED rack travel mm : 14.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED rack travel mm : 14.00 Rated speed rpm : 1095
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED rack travel mm : 14.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : + 0.15  Rated speed rpm : 900	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : + 0.15  Rated speed rpm : 900 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 0.50
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 5.80 guide sleeve travel mm : 3.62	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 15  rack travel mm : 15  rack travel mm : 15
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25  Rated speed rpm : 3.62 Tolerance mm : +- 0.25	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING  Rated speed rpm : 753
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25  Rated speed rpm : 1204 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING  Rated speed rpm : 753 Tolerance 1/min : +- 3
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25  Rated speed rpm : 1204 guide sleeve travel mm : 1204 guide sleeve travel mm : 10.00	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING  Rated speed rpm : 753
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25  Rated speed rpm : 1204 guide sleeve	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING  Rated speed rpm : 753 Tolerance 1/min : +- 3 rack travel mm : 10.80
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25  Rated speed rpm : 1204 guide sleeve travel mm : 10.00 Tolerance mm : +- 0.25	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING  Rated speed rpm : 753 Tolerance 1/min : +- 3 rack travel mm : 10.80  Rated speed rpm : 785
GUIDE SLEEVE TRAVEL  Rated speed rpm : 350 guide sleeve travel mm : 1.48 Tolerance mm : +- 0.20  Rated speed rpm : 1107 guide sleeve travel mm : 8.04 Tolerance mm : +- 0.15  Rated speed rpm : 900 guide sleeve travel mm : 5.69 Tolerance mm : +- 0.25  Rated speed rpm : 580 guide sleeve travel mm : 3.62 Tolerance mm : +- 0.25  Rated speed rpm : 1204 guide sleeve travel mm : 1204 guide sleeve travel mm : 10.00	control lever position degree : 119.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 14.00 Rated speed rpm : 1095 Tolerance 1/min : +- 5  rack travel mm : 4.00 Raced speed rpm : 1190 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1300  ASSEMBLY GOVERNOR SETTING  Rated speed rpm : 753 Tolerance 1/min : +- 3 rack travel mm : 10.80

rack travel mm	: 4.00	+		
rack travel mm	: 0.50	‡	TORQUE CONTROL	
Tolerance mm		†	natal acciden	4050
Rated speed rpm	: 900	1	Rated speed rpm rack travel mm	: 1050
rack travel mm	: 10.80	+	Tolerance mm	
rack travel mm	: 4.00	<u> </u>	Rated speed rpm rack travel mm	: 800 : 15.10
rack travel mm	: 0.50	+	Tolerance mm	: +- 0.05
Tolerance mm	: +- 0.50	1		
rack travel mm	: 10.80	<u> </u>	ANEROID/ALTITUDE COMPENSATOR TEST	
rack travel mm	: 4.00	<u>†</u>	COLL ENGLISH TEST	
rack travel mm	: 0.50	I		
Tolerance mm	: +- 0.50	1	MEASUREMENT	
rack travel mm	: 10.80	Ŧ	Pressure hPa	: -
rack travel mm	: 4.00	‡	Rated speed rpm	: 500
THE CITY CE THIS	. 4.00	1	Pressure hPa	: 300
rack travel mm	: 0.50	+	rack travel mm	
Tolerance mm	: +- 0.50	‡	Tolerance mm	: +- 0.05
rack travel mm	: 10.80	+	Pressure hPa	
rack travel mm	: 4.00	Ī	rack travel mm Tolerance mm	: 3.70 : +- 0.20
rack travet mm	. 4.00	Į	toter affice than	. +- 0.20
rack travel mm	: 0.50	+		
Tolerance mm	: +- 0.50	İ	START CUT-OUT	
rack travel mm	: 10.80	+	Rated speed rpm	
rack travel mm	: 4.00	<u>†</u>	Rated speed rpm	: < 270
rack cravec inti	. 4.00	Į	Check	
rack travel mm		+	speed 1/min	: > 80
Tolerance mm	: +- 0.50	+	Check	4 200
		‡	speed 1/min	: < 290
LOW IDLE		+		
		‡	FUEL DELIVERY CHA	ARACTERISTICS
control lever		1	Aneroid pressure	
position degree	: 67.0	+	hPa	: 1300
tolerance degree	: +- 4.0	+	Rated speed rpm	: 800
Tankinga		+	Del. quantity cm3/1000 strokes	• 224 0
Testing:		Ī	Tolerance	: 220.0
Rated speed rpm	: 350	+	cm3/1000 strokes	: +- 3.0
rack travel mm	: 5.70	+	Check tolerance	
Tolerance mm	: +- 0.10	İ	cm3/1000s. Spreed	: +- 6.0
Rated speed rpm	: 250	Ţ	Tolerance	
		†	cm3/1000 strokes Check tolerance	
CRT mm min.		Ī	cm3/1000s.	
Rated speed rpm	: 400	+		

J18

Aneroid pressure		
nPa	-	
Rated speed rpm	<b>:</b> 500	
Del. quantity cm3/1000 strokes	: 134.0	
Tolerance	. 134.0	
cm3/1000 strokes	: ← 1.0	
Check tolerance		
cm3/1000s. Spreed	: +- 4.0	
rolerance		
cm3/1000 strokes	: 8.0	
Check tolerance	. 42.0	
cm3/1000s.	: 12.0	
BREAKAWAY		
Rack travel in mm	: 14.00	
Rated speed rpm	: 1095	
Tolerance 1/min	: +- 5	
STARTING FUEL DEL	IVERY	
Rated speed rpm	: 100	
el quantity	250.0	
m3/1000 strokes Tolerance	: 250.0	
m3/1000 strokes	: + 10.0	
heck tolerance	. 44 6	
:m3/1000s.	: +- 14.0	
.OW IDLE		
	_	
lated speed rpm el. quantity	: 350	
m3/1000 strokes	: 19.0	
olerance		
m3/1000 strokes	: + 3.0	
heck tolerance m3/1000s.	: +- 6.0	
preed		
olerance	. 0.0	
m3/1000 strokes heck tolerance	: 8.0	
m3/1000s.	: 12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 05.06.96 Test oil : ISO 4113

Combination No. : 0 402 648 788

Injection pump

Pump designation : PE8P120A320LS7897 EP type number : 0 412 628 915

Governor

Governer design. : RQV350...1050PA1307

Governer no. : 0 421 814 180

Cust. part No. :

Customer-spec. information
Customer : MB-NFZ
Motor : 0M442 LA
Power KW : 370.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : +- 10.0

Test nozzle holde

assembly : 1 688 901 105

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 2.5
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.80 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 20.50 Tolerance mm : + 0.50

Firing order : 8-7-2-6-3 :-5-4-1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance :  $\leftarrow$  0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm: 15.35

Tolerance mm : + 0.10

Del. quantity	+ Rated speed rpm : 1204
cm3/1000 strokes : 272.0	+ guide sleeve
	† travel mm : 10.00
Tolerance	+ Tolerance mm : +- 0.25
cm3/1000 strokes : +- 1.0	1
	Rated speed rpm : 1300
Check tolerance	+ guide sleeve
cm3/1000s. : +- 4.0	+ travel mm : 11.50
	† Tolerance mm : +- 0.50
Spreed	+
Tolerance	
cm3/1000 strokes : 5.0	+ GUIDE SLEEVE POSITION
	1
Check tolerance	+ Rated speed rpm : 1152
m.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	T Nated Speed I pill : 1132
cm3/1000s. ; 9.0	Took thought in man a 1/ 70
750	+ Rack travel in mm : 14.30
Rated speed rpm : 350	† Tolerance mm : +- 1.30
	+
Rack travel in mm : 5.10	+ FULL LOAD DELIVERY AT FULL LOAD STOP
Tolerance mm : + 0.10	+
Del. quantity	+ Rated speed rpm : 1050
cm3/1000 strokes : 20.0	+ Aneroid pressure
Tolerance	1000
cm3/1000 strokes : +- 3.0	+ Del. quantity
Check tolerance	+ cm3/1000 strokes : 272.0
cm3/1000S. : +- 6.0	+ Tolerance
Spreed	+ cm3/1000 strokes : +- 1.0
Tolerance	+ Check tolerance
cm3/1000 strokes : 6.0	+ cm3/1000s. : +- 4.0
Check tolerance	+ Spreed
cm3/1000s. : 10.0	+ Tolerance
10.0	+ cm3/1000 strokes : 5.0
	Check tolerance
(D) CETTING OF THIEGTION DUMP	
(B) SETTING OF INJECTION PUMP	+ cm3/1000s. : 9.0
WITH GOVERNOR	†
	†
GUIDE SLEEVE TRAVEL	+ CONTROL LEVER
778	†
Rated speed rpm : 350	+ control lever
guide sleeve	+ position degree : 119.0
travel mm : 1.48	tolerance degree : +- 4.0
Tolerance mm : +- 0.20	+
	+ RATED SPEED
Rated speed rpm : 1108	+
guide sleeve	+ rack travel mm : 14.30
travel mm : 8.04	Rated speed rpm : 1095
	+ Tolerance 1/min : +- 5
Tolerance mm : +- 0.15	Toterance minn . +- 3
000	T === ( 00
Rated speed rpm : 900	rack travel mm : 4.00
guide sleeve	Rated speed rpm : 1197
travel mm : 5.69	+ Tolerance 1/min : +- 15
Tolerance mm : + 0.25	+
	rack travel mm : 0.50
Rated speed rpm : 570	Tolerance mm : +- 0.50
guide sleeve	Rated speed rpm : 1240
travel mm : 3.57	
Tolerance mm : + 0.25	1
TOTE CALLS IN THE C.E.	
•	<del>-</del>

## LOW IDLE control lever position degree : 67.0 tolerance degree : + 4.0 Testing: Rated speed rpm 350 rack travel mm 5.10 : + 0.10 Tolerance mm : 250 Rated speed rpm : > 8.17 CRT mm min. Rated speed rpm : 450 TORQUE CONTROL Rated speed rpm : 1050 rack travel mm : 15.35 : +- 0.10 Tolerance mm Rated speed rpm 800 rack travel mm 15.35 Tolerance mm : +- 0.10 ANEROID/ALTITUDE COMPENSATOR TEST **MEASUREMENT** 290 Pressure hPa : 0.75 rack travel mm : Tolerance mm : +- 0.05 780 Pressure hPa 3.90 rack travel mm : +- 0.10 Tolerance mm START CUT-OUT Rated speed rpm : > 100 Rated speed rpm ; < 270 Check speed 1/min : > 80 Check 290 speed 1/min : <

Aneroid pressure hPa : 1800 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 274.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000s. : +- 6.0  Aneroid pressure hPa : 1800 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 156.0
hPa : 1800 Rated speed rpm : 800 Del. quantity cm3/1000 strokes : 274.0 Tolerance cm3/1000 strokes : +- 3.0 Check tolerance cm3/1000S. : +- 6.0  Aneroid pressure hPa : 1800 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 156.0
hPa : 1800 Rated speed rpm : 1050 Del. quantity cm3/1000 strokes : 156.0
Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 5.0
Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 130.0 Tolerance cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
BREAKAWAY  Rack travel in mm : 14.30 Rated speed rpm : 1095 Tolerance 1/min : +- 5
STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 270.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance cm3/1000s. : +- 14.0
LOW IDLE  Rated speed rpm : 350

: 20.	0
: +- 3.	0
: +- 6.	0
: 6.	0
: 10.	0
: 6.	0

End of test specification sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.06.96 Test oil : ISO 4113

Combination No. : 0 402 946 026

Injection pump

Pump designation : PES6P120A720RS8045

EP type number : 0 412 926 028

Governor

Governer design. : RQV350...1100PA1305K

Governer no. : 0 421 815 967

Cust. part No. : 1388631

Customer-spec. information Customer : SCANIA

Motor

: DSI1174M

TEST BENCH REQUIREMENTS

Inlet line : EHAB

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 2 417 413 082

2.5 Inlet press. bar : : +- 0.1 Tolerance bar

Tolerance l/h:  $\leftarrow$  10.0

Test nozzle holde

: 1 688 901 104 assembly

Opening pressure

: 251.5 : + 1.5 bar

Tolerance bar

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 3.65 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery blocking

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

EASIC SETTING

Rated speed rpm : 1100

Rack travel in mm: 11.75

Tolerance mm:  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 250.0	Rated speed rpm : 1400 guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
cm3/1000 strokes : + 1.0	Toterance mini : += 0.50
Check tolerance cm3/1000s. : +- 7.0	GUIDE SLEEVE POSITION
Spreed	Rated speed rpm : 1250
Tolerance cm3/1000 strokes : 8.0	Rack travel in mm : 10.70 Tolerance mm : +- 2.00
Check tolerance cm3/1000s. : 14.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 350	Rated speed rpm : 1100 Aneroid pressure
Rack travel in mm : 4.20	+ hPa : 1500 + Del. quantity
Tolerance mm : +- 0.30	+ cm3/1000 strokes : 250.0
Del. quantity	+ Tolerance
cm3/1000 strokes : 30.0 Tolerance	+ cm3/1000 strokes : + 1.0 + Check tolerance
cm3/1000 strokes : +- 3.0	+ cm3/1000s. : +- 7.0
Check tolerance	Spreed
cm3/1000s. : +- 6.0	+ Tolerance
Spreed Tolerance	+ cm3/1000 strokes : 8.0 + Check tolerance
cm3/1000 strokes : 4.0	- cm3/1000s. : 14.0
Check tolerance cm3/1000s. : 8.0	†
	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	+
WITH GOVERNOR	t control lever
	<pre>+ position degree : 64.0 + tolerance degree : +- 4.0</pre>
GUIDE SLEEVE TRAVEL	+
Detail aread may a 750	control lever
Rated speed rpm : 350 guide sleeve	+ position degree : 118.0 + tolerance degree : +- 4.0
travel mm : 2.00	+
Tolerance mm : +- 0.20	+ RATED SPEED
Rated speed rpm : 1165	rack travel mm : 10.70
guide sleeve	Rated speed rpm : 1145
travel mm : 10.15 Tolerance mm : + 0.15	Tolerance 1/min : +- 5
Tolerance mm : +- 0.15	rack travel mm : 4.00
Rated speed rpm : 755	Rated speed rpm : 1225
guide sleeve travel mm : 6.14	Tolerance 1/min : +- 15
travel mm : 6.14 Tolerance mm : + 0.25	rack travel mm : 0.50
	Tolerance mm : +- 0.50
Rated speed rpm : 460 guide sleeve	Rated speed rpm : 1300
travel mm : 4.07	<del> </del>
Tolerance mm : +- 0.25	
	LOW IDLE

		+	Tolerance mm	: +- 0.05
control lever position degree		‡		
tolerance degree	: + 4.0	‡	FUEL DELIVERY CHA	ARACTERISTICS
control lever position degree tolerance degree	: 20.0 : +- 4.0	+	Aneroid pressure hPa Rated speed rpm	: 1500
Testing:		<del>-</del>	Del. quantity cm3/1000 strokes	
Rated speed rpm rack travel mm Tolerance mm	: 4.20	Ī	Tolerance cm3/1000 strokes Check tolerance	
Rated speed rpm		1	cm3/1000s.	: <b>←</b> 7.0
CRT mm min.	: > 8.42	‡	Aneroid pressure	: -
Rated speed rpm		<u> </u>	Rated speed rpm Del. quantity	: 500
		<u> </u>	cm3/1000 strokes Tolerance	: 163.0
TORQUE CONTROL		<u>†</u>	cm3/1000 strokes Check tolerance	
Rated speed rpm rack travel mm Tolerance mm	: 11.75	+	cm3/1000s.	
Rated speed rpm		1	BREAKAWAY	
rack travel mm Tolerance mm	: 700 : 10.90 : + 0.10		Rack travel in mm Rated speed rpm Tolerance 1/min	: 1145
ANEROID/ALTITUDE COMPENSATOR TEST		+		
SETTING		‡	STARTING FUEL DEL	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1100 : 1500 : 11.75 : +- 0.05	† † † †	Rated speed rpm rack travel mm Tolerance mm Tolerance cm3/1000 strokes Check tolerance	: 8.00 : + 0.50
MEASUREMENT		1	cm3/1000s.	: ← 24.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1100 : 8.00 : + 0.20	+++++++++++++++++++++++++++++++++++++++	LOW IDLE	
Rated speed rpm	: 1100	‡	Rated speed rpm	: 350
Pressure hPa rack travel mm	: 340 : 8.35	‡	Del. quantity cm3/1000 strokes Tolerance	
Tolerance mm	: + 0.25	‡	cm3/1000 strokes Check tolerance	
Pressure hPa rack travel mm	: 800 : 10.65	‡	cm3/1000s. Spreed	: +- 6.0

Tolerance cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 10.06.96 Test oil : ISO 4113

Combination No. : 0 403 244 045

Injection pump

Pump designation : PES4MW100/720RS1524

EP type number : 0 413 204 021

Governor

Governer design. : RQV300...1300MW132

: -12

Governer no.

: 0 420 083 329

Cust. part No. : 0240740902

Customer-spec. information Customer : MB-NFZ Motor : OM364LA

Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter: 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar :

Tolerance bar : +- 1.0

Prestroke mm : 4.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00

Firing order : 1-3-4-2

Phasing : 0-90-180-270 Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.00

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 89.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

7.0 cm3/1000s.

J28

Rated speed rpm : Rack travel in mm :	+	Rated speed rpm : 1780 guide sleeve travel mm 13.50 Tolerance mm : +- 0.50
	+ 0.10 I	
	7	CUIDE CLEENE DOCTTION
Del. quantity	. 12.0	GUIDE SLEEVE POSITION
cm3/1000 strokes :	12.0	0.1.1
Tolerance	†	Rated speed rpm : 1350
cm3/1000 strokes :	+- 2.0	- 1
Check tolerance	+	Rack travel in mm : 10.00
cm3/1000s. :	+- 4.5	Tolerance mm : +- 2.70
Spreed	+	
Tolerance	+	
cm3/1000 strokes :	2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Check tolerance	+	
cm3/1000s. :	4.0	Rated speed rpm : 1300
	+	Aneroid pressure
	1	hPa : 700
(B) SETTING OF INJE	ECTION PUMP	Del. quantity
WITH GOVERNOR	1	cm3/1000 strokes : 89.0
	1	Tolerance
		cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	. +	Check tolerance
	1	cm3/1000s. : +- 3.0
Rated speed rpm :	300	Spreed
guide sleeve	1	Tolerance
travel mm :	0.91	cm3/1000 strokes : 4.5
	+- 0.25	Check tolerance
rote: arroe iiiii	1	cm3/1000s. : 7.0
Rated speed rpm :	1353	
guide sleeve	1	
	7.14	
travel mm :	7.14 + 0.25	CONTROL   EVER
travel mm :	:	CONTROL LEVER
travel mm : Tolerance mm :	+- 0.25	
travel mm : Tolerance mm : Rated speed rpm :		control lever
travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.25	control lever position degree : 111.0
travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+- 0.25 1130 5.40	control lever
travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+ 0.25	control lever position degree : 111.0 tolerance degree : +- 4.0
Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.25 1130 5.40 + 0.25	control lever position degree : 111.0
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm :	+- 0.25 1130 5.40	control lever position degree : 111.0 tolerance degree : +- 4.0 RATED SPEED
travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.25 1130 5.40 + 0.25 610	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED rack travel mm : 10.00
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+ 0.25 1130 5.40 + 0.25 610 2.96	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :	+ 0.25 1130 5.40 + 0.25 610	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : Rated speed rpm : Rated speed rpm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15
Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :  Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780 3.72	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780 3.72	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50
Tolerance mm :  Rated speed rpm guide sleeve travel mm :  Tolerance mm :  Rated speed rpm guide sleeve travel mm :  Tolerance mm :  Rated speed rpm guide sleeve travel mm :  Rated speed rpm guide sleeve travel mm :  Tolerance mm :  Rated speed rpm guide sleeve travel mm :  Tolerance mm :  Rated speed rpm guide sleeve travel mm :  Tolerance mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780 3.72 + 0.25 1679	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1550
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780 3.72 + 0.25	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1550
Travel mm : Tolerance mm : Rated speed rpm guide sleeve travel mm : Tolerance mm : Rated speed rpm guide sleeve travel mm : Tolerance mm : Rated speed rpm guide sleeve travel mm : Tolerance mm : Rated speed rpm guide sleeve travel mm : Rated speed rpm guide sleeve travel mm : Tolerance mm : Rated speed rpm guide sleeve travel mm : Tolerance mm : Rated speed rpm guide sleeve travel mm :	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780 3.72 + 0.25 1679	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1550  LOW IDLE  control lever
Travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm : Tolerance mm : Rated speed rpm : guide sleeve travel mm :: Tolerance mm :: Rated speed rpm : guide sleeve travel mm :: Tolerance mm :: Rated speed rpm : guide sleeve travel mm :: Rated speed rpm : guide sleeve travel mm :: Tolerance mm :: Rated speed rpm : guide sleeve travel mm :: Tolerance mm ::	+ 0.25 1130 5.40 + 0.25 610 2.96 + 0.25 660 3.31 + 0.25 780 3.72 + 0.25 1679 12.00	control lever position degree : 111.0 tolerance degree : +- 4.0  RATED SPEED  rack travel mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5  rack travel mm : 4.00 Rated speed rpm : 1445 Tolerance 1/min : +- 15  rack travel mm : 0.50 Tolerance mm : 0.50 Rated speed rpm : 1550  LOW IDLE

tolerance degree	: +- 4.0	+ Check
Testing:		+ speed 1/min : < 220
Rated speed rpm	• 300	FUEL DELIVERY CHARACTERISTICS
nack table mm		T FOEL DELIVERY CHARACTERISTICS
rack travel mm Tolerance mm	. 4.40	T Amendial processor
roterance mm	; 4- 0.10	Aneroid pressure
Dahad anasal ann	. 200	+ hPa : 700
Rated speed rpm	: 200	Rated speed rpm : 750
CDTi-	. > 5.00	+ Del. quantity
CRT mm min.	: > 5.00	cm3/1000 strokes : 81.0
		+ Tolerance
7000/17 000/1700/		+ cm3/1000 strokes : +- 1.5
TORQUE CONTROL		+ Check tolerance
	4770	+ cm3/1000s. : +- 4.0
Rated speed rpm	: 1300	+ Spreed
rack travel mm Tolerance mm	: 11.00	+ Tolerance
Tolerance mm	: +- 0.05	cm3/1000 strokes : 6.0
		Check tolerance
Rated speed rpm	; 750	- cm3/1000s. : 9.0
rack travel mm Tolerance mm	: 11.00	+
Tolerance mm	· +- 0.10	+ Aneroid pressure
		+ hPa : -
		Rated speed rpm : 500
ANEROID/ALTITUDE		+ Del. quantity
COMPENSATOR TEST		+ cm3/1000 strokes : 56.0
		+ Tolerance
		+ cm3/1000 strokes : +- 1.0
SETTING		+ Check tolerance
		+ cm3/1000s. : +- 3.0
Rated speed rpm	: 500 : 700	+
Pressure hPa	: 700	
rack travel mm	: 11.00	+ BREAKAWAY
Pressure hPa rack travel mm Tolerance mm	: +- 0.05	+
		+
MEASUREMENT		+ Rack travel in mm : 10.00
		+ Rated speed rpm : 1345
Pressure hPa	: -	Tolerance 1/min : +- 5
Rated speed rpm	: 500	<del> </del>
Tolerance mm		<del>}</del>
Rated speed rpm	: 500	STARTING FUEL DELIVERY
,		+
Pressure hPa	: 230	Rated speed rpm : 100
rack travel mm	: 0.90	+ Del. quantity
Tolerance mm	: +- 0.10	+ cm3/1000 strokes : 120.0
		+ Tolerance
Pressure hPa	: 150	+ cm3/1000 strokes : +- 5.0
rack travel mm		+ Check tolerance
Tolerance mm	: +- 0.10	+ cm3/1000s. : +- 8.0
		+
		<del></del> +
START CUT-OUT		+
		LOUIS
Rated speed rpm		+ LOW IDLE
Rated speed rpm	: < 200	Total aread area 200
at		Rated speed rpm : 300
Check	. > 00	Del. quantity
speed 1/min	: > 80	+ cm3/1000 strokes : 12.0
		<b>†</b>

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 10.06.96 : ISO 4113

Combination No. : 0 403 244 048

Injection pump

Pump designation : PES4MW100/720RS1524 EP type number : 0 413 204 021

Governer design. : RQV300...1300MW132

: -12

Governer no.

: 0 420 083 329

Cust. part No. : 0240741002

Customer-spec. information : MB-NFZ Customer : 0M364LA Motor Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance \*C

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 4.55 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 21.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Tolerance : +- 0.50

Check

: +- 0.75 tolerance °NW

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 11.00 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 89.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 4.5

Check tolerance

: 7.0 cm3/1000s.

Rated speed rpm : 300  Rack travel in mm : 4.40	Rated speed rpm : 1780 guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Tolerance mm : +- 0.10	
Del. quantity	+ GUIDE SLEEVE POSITION
cm3/1000 strokes : 12.0	+
Tolerance	+ Rated speed rpm : 1350
cm3/1000 strokes : +- 2.0	<del>-</del>
Check tolerance	Rack travel in mm: 10.00
cm3/1000s. : +- 4.5	+ Tolerance mm : + 2.70
Spreed	10 certaine min
Tolerance	
cm3/1000 strokes : 2.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	T FUEL LUAD DELIVERY AT FULL LUAD STOP
Check tolerance	1700
cm3/1000s. : 4.0	+ Rated speed rpm : 1300
	+ Aneroid pressure
	+ hPa : 700
(B) SETTING OF INJECTION PUMP	+ Del. quantity
WITH GOVERNOR	+ cm3/1000 strokes : 89.0
	† Tolerance
	+ cm3/1000 strokes : +- 1.0
GUIDE SLEEVE TRAVEL	+ Check tolerance
	+ cm3/1000s. : +- 3.0
Rated speed rpm : 300	Spreed
guide sleeve	+ Tolerance
travel mm : 0.91	+ cm3/1000 strokes : 4.5
Tolerance mm : + 0.20	Check tolerance
Toterance min . The U.20	
Datash succed non . 4757	+  cm3/1000s. : 7.0
Rated speed rpm : 1353	†
guide sleeve	†
travel mm : 7.14	CONTROL A SUED
Tolerance mm : +- 0.15	+ CONTROL LEVER
A430	<b>†</b>
Rated speed rpm : 1130	+ control lever
guide sleeve	+ position degree : 111.0
travel mm : 5.40	† tolerance degree : +- 4.0
Tolerance mm : +- 0.25	+
	+ RATED SPEED
Rated speed rpm : 610	+
guide sleeve	+ rack travel mm : 10.00
travel mm : 2.96	+ Rated speed rpm : 1345
Tolerance mm : +- 0.25	+ Tolerance 1/min : + 5
	+
Rated speed rpm : 660	+ rack travel mm : 4.00
guide sleeve	Rated speed rpm : 1445
travel mm : 3.31	+ Tolerance 1/min : + 15
Tolerance mm : + 0.25	
TO COT GITTO THAT	rack travel mm : 0.50
Rated speed rpm : 780	+ Tolerance mm : +- 0.50
guide sleeve	Rated speed rpm : 1550
travel mm : 3.72	Traced speed (pill . 1750
	Ţ
Tolerance mm : +- 0.25	
Retad aread arm . 1470	LOUITOLE
Rated speed rpm : 1679	LOW IDLE
guide sleeve	LOW IDLE
guide sleeve travel mm : 12.00	+
guide sleeve	control lever
guide sleeve travel mm : 12.00	+

tolerance degree	+ 4.0 +	Check speed 1/min : < 220
Testing:	†	
Rated speed rpm rack travel mm Tolerance mm	: 4.40 +	FUEL DELIVERY CHARACTERISTICS Aneroid pressure
Rated speed rpm	: 200	hPa : 700 Rated speed rpm : 750
CRT mm min.	: > 5.00	Del. quantity cm3/1000 strokes : 81.0 Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 1.5 Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 1300 : 11.00	<pre>cm3/1000S. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 6.0</pre>
Rated speed rpm	: 750 +	Check tolerance cm3/1000s. : 9.0
rack travel mm Tolerance mm	: 11.00 : + 0.10	Aneroid pressure hPa : - Rated speed rpm : 500
ANEROID/ALTITUDE COMPENSATOR TEST	+	Del. quantity cm3/1000 strokes : 56.0 Tolerance
SETTING	+	cm3/1000 strokes : +- 1.0 Check tolerance
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 700 + : 11.00 +	cm3/1000s. : +- 3.0 
MEASUREMENT Pressure hPa Rated speed rpm Tolerance mm	: - + 0.10	Rack travel in mm : 10.00 Rated speed rpm : 1345 Tolerance 1/min : +- 5
Rated speed rpm	+	STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm	: 230 +	Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 120.0 Tolerance cm3/1000 strokes : +- 5.0 Check tolerance cm3/1000s. : +- 8.0
START CUT-OUT		
Rated speed rpm :	: > 100 : < 200	LOW IDLE Rated speed rpm : 300
Check speed 1/min :	: > 80	Del. quantity cm3/1000 strokes : 12.0

Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.5 Spreed Tolerance cm3/1000 strokes : 2.0 Check tolerance cm3/1000s. : 4.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 17,06,96 : ISO 4113

Combination No. : 9 400 087 487

Injection pump

Pump designation : PES6P120A720LS7176

: -10

EP type number : 0 412 726 869

Governor

Governer design. : RQV300...1050PA1142

Governer no. : 9 420 080 368

Cust. part No. :

Customer-spec. information Customer : MBB : OM447 A Motor : 210.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

: 40 temp. °C Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : \_6- 2- 4- 1- 5-

: 0-60-120-180-240 Phasing

: -300

BASIC SETTING

Rated speed rpm : 600

Rack travel in mm: 12.75 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 177.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s. : +- 4.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance cm3/1000s.	: 9.0	‡ <del></del>
Rated speed rpm	• 300	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated Speed rpm	. 300	Rated speed rpm : 600
Rack travel in m	.m	+ Aneroid pressure + hPa : 600
Tolerance mm		Del. quantity
Del. quantity	0.20	- cm3/1000 strokes : 177.0
cm3/1000 strokes	: 13.0	+ Tolerance
Tolerance	, , , , , , ,	+ cm3/1000 strokes : +- 1.0
cm3/1000 strokes	: +- 3.0	+ Check tolerance
Check tolerance		cm3/1000s. : +- 4.0
cm3/1000s.	: +- 6.0	+ Spreed
Spreed		Tolerance
Tolerance		+ cm3/1000 strokes : 5.0
cm3/1000 strokes	: 8.0	+ Check tolerance
Check tolerance		+ cm3/1000s. : 9.0
cm3/1000s.	: 12.0	‡
(B) SETTING OF I	NJECTION PUMP	CONTROL LEVER
MILL GOAFUIAOU		control lever
		position degree : 59.0
GUIDE SLEEVE TRA	VEL	tolerance degree : +- 4.0
Rated speed rpm	: 300	t control lever
guide sleeve	. 300	position degree : 114.0
travel mm	: 1.40	tolerance degree : +- 4.0
Tolerance mm	_	toter differ degree 4.0
roter drice min	0.20	ARATED SPEED
Rated speed rpm	: 1100	1000000
guide sleeve		rack travel mm : 12.00
travel mm	: 7.65	Rated speed rpm : 1103
Tolerance mm	: +- 0.25	Tolerance 1/min : +- 8
Rated speed rpm	: 500	rack travel mm : 4.00
guide sleeve		+ Rated speed rpm : 1185
travel mm	: 3.25	+ Tolerance 1/min : +- 15
Tolerance mm	: +- 0.25	+
		+ rack travel mm : 0.75
Rated speed rpm	: 900	+ Tolerance mm : +- 0.75
guide sleeve		+ Rated speed rpm : 1300
travel mm	: 5.85	†
Tolerance mm	: +- 0.25	
Rated speed rpm	: 1210	+ LOW IDLE
guide sleeve		+
travel mm	: 9.55	+
Tolerance mm	: +- 0.25	+ control lever
		+ position degree : 68.0
		tolerance degree : + 4.0
GUIDE SLEEVE POST	ITION	†
Butterd and of the	. 44/0	control lever
Rated speed rpm	: 1140	position degree : 13.0
Onali Americal dia co	14 50	tolerance degree : +- 4.0
Rack travel in mn		Tasting.
Tolerance mm	: 1.50	† Testing:
		†

Dake I seemed in a	. 700	
Rated speed rpm	: 300	Ananaid proseure
rack travel mm Tolerance mm	· +- 0.20	+ Aneroid pressure + hPa · 1000
TOTAL GITTE HAIR		hPa : 1000 Rated speed rpm : 1050
Rated speed rpm	: 100	1 Del mineralia.
		- cm3/1000 strokes : 182.0
CRT mm min.	: > 8.00	+ Tolerance
<b>.</b>	775	cm3/1000 strokes : +- 2.0
Rated speed rpm	: 375	+ Check tolerance + cm3/1000s. : +- 5.0
<del></del>	····	
TORQUE CONTROL		Aneroid pressure
		hPa : 1000
Rated speed rpm	: 600	Rated speed rpm : 750
rack travel mm	: 12.75	∔ Del. quantity
Tolerance mm	: <del>+-</del> 0.05	- cm3/1000 strokes : 186.5
	4000	+ Tolerance
Rated speed rpm rack travel mm Tolerance mm	: 1050	cm3/1000 strokes : +- 2.0
rack travel mm	: 13.05	Check tolerance cm3/1000s. : +- 5.0
roterance mm	; <del>-</del> 0.05	T (1113/1000s. : #= 3.0
Rated speed rpm	: 750	Aneroid pressure
rack travel mm	: 13.05	1
Tolerance mm	: <b>+-</b> 0.05	Rated speed rpm : 500
		🕂 Del. quantity
ANEROID/ALTITUDE		+ Tolerance
COMPENSATOR TEST		+ cm3/1000 strokes : +- 1.0
		Check tolerance cm3/1000s. : +- 4.0
		+ Cm3/1000S. : +- 4.0 + Spreed
MEACUDEMENT		Tolerance
MENVIREMENT		
MEASUREMENT		$\frac{1}{\sqrt{1000}}$ cm3/1000 strokes : 5.0
MEASUREMENT Pressure hPa	: 250	cm3/1000 strokes : 5.0 Check tolerance
Pressure hPa rack travel mm	: -1.30	+ cm3/1000 strokes : 5.0
Pressure hPa rack travel mm Tolerance mm	: -1.30	cm3/1000 strokes : 5.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm	: -1.30 : + 0.10	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000S. : 9.0
Pressure hPa rack travel mm Tolerance mm	: -1.30 : + 0.10	cm3/1000 strokes : 5.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm	: -1.30 : + 0.10 : 380 : -0.40	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000S. : 9.0
Pressure hPa rack travel mm Tolerance mm	: -1.30 : + 0.10 : 380 : -0.40	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0 - BREAKAWAY
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0 - BREAKAWAY
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa  Pressure hPa	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690 : 770	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0 - BREAKAWAY - Rack travel in mm : 12.00 - Rated speed rpm : 1103
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa Pressure hPa rack travel mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690 : 770 : 0.30	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0 - BREAKAWAY - Rack travel in mm : 12.00 - Rated speed rpm : 1103
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa Pressure hPa rack travel mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690 : 770	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa Pressure hPa rack travel mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690 : 770 : 0.30	- cm3/1000 strokes : 5.0 - Check tolerance - cm3/1000s. : 9.0 - BREAKAWAY - Rack travel in mm : 12.00 - Rated speed rpm : 1103
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa Pressure hPa rack travel mm Tolerance mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690 : 770 : 0.30	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : + 8  STARTING FUEL DELIVERY
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa Pressure hPa rack travel mm	: -1.30 : ← 0.10 : 380 : -0.40 : ← 0.10 : 690 : 770 : 0.30	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : + 8  STARTING FUEL DELIVERY  Rated speed rpm : 100
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa Pressure hPa rack travel mm Tolerance mm	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : + 8  STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa Pressure hPa rack travel mm Tolerance mm	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10 : > 100	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : + 8  STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa Pressure hPa rack travel mm Tolerance mm	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10 : > 100	- cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  - BREAKAWAY  - Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : + 8  - STARTING FUEL DELIVERY  - Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa Pressure hPa rack travel mm Tolerance mm  START CUT-OUT Rated speed rpm Check	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10 : > 100 : < 220	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : +- 8  STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm  Pressure hPa rack travel mm Tolerance mm  Pressure hPa Pressure hPa rack travel mm Tolerance mm  START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10 : > 100 : < 220	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : +- 8  STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : +- 10.0
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa Pressure hPa rack travel mm Tolerance mm Tolerance mm START CUT-OUT Rated speed rpm Rated speed rpm Check speed 1/min Check	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10 : > 220 : > 80	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : +- 8  STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance
Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm Pressure hPa ressure hPa rack travel mm TART CUT-OUT rated speed rpm ated speed rpm heck peed 1/min	: -1.30 : + 0.10 : 380 : -0.40 : + 0.10 : 690 : 770 : 0.30 : + 0.10 : > 220 : > 80	cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. : 9.0  BREAKAWAY  Rack travel in mm : 12.00 Rated speed rpm : 1103 Tolerance 1/min : +- 8  STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0 Tolerance cm3/1000 strokes : +- 10.0 Check tolerance

Rated speed rpm	:		300
Del. quantity			47.0
cm3/1000 strokes	:		13.0
Tolerance			7.0
cm3/1000 strokes Check tolerance	•	+-	3.0
cm3/1000S.			6.0
Spreed	•	•	0.0
Tolerance			
cm3/1000 strokes	:		8.0
Check tolerance			
cm3/1000S.	:		12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 13.06.96 : ISO 4113

Combination No. : 0 402 076 785

Injection pump

Pump designation : PES6P120A720RS3352 : 0 412 026 780

EP type number

Governor Governer design.

: RSV400...750P4A611 : -1

Governer no.

: 0 421 833 514

Cust. part No. : RE66449

Customer-spec. information Customer : DEERE : 6081AF001 Motor

Power KW

: 135.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

: 1 688 901 103 assembly

Opening pressure

208.5 Tolerance bar : **←** 1.5

: 1 680 750 015 Test lines

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance Check

: +- 0.75 tolerance °NW

Start of delivery mark

\*NW after s.o.d. : 7.00 : +- 0.50 Tolerance

Check

: +- 0.75 tolerance °NW

Barrel no. : 1

Beginning of delivery differende

and maximum rack

14.00 travel Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 600

	Aneroid pressure
Rack travel in mm: 13.90	hPa : -
Tolerance mm : +- 0.05	Del. quantity cm3/1000 strokes : 226.0
	Tolerance
Del. quantity + cm3/1000 strokes : 226.0 +	cm3/1000 strokes : +- 1.0
cms/ rough strokes : 220.0	Check tolerance cm3/1000s. : +- 3.0
Tolerance	Spreed
cm3/1000 strokes : +- 1.0	Tolerance
Charle to long and	cm3/1000 strokes : 4.0
Check tolerance +- 3.0 +-	Check tolerance cm3/1000s. : 6.5
Spreed	
Tolerance + cm3/1000 strokes : 4.0	CONTROL LEVER
tilis/ 1000 strokes . 4.0	CONTROL LEVER
Check tolerance	control lever
cm3/1000s. : 6.5	position degree : 90.0
Rated speed rpm : 400	tolerance degree : +- 4.0
Rated speed rpm : 400	RATED SPEED
1	
Rack travel in mm: 5.90 +	rack travel mm : 12.90
Tolerance mm : +- 0.10 +	Rated speed rpm : 760 Tolerance 1/min : +- 5
Del. quantity + cm3/1000 strokes : 30.0 +	Toterance Minni . F- 3
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : + 3.0 +	Rated speed rpm : 795
Check tolerance + 5.0 + 5.0	Tolerance 1/min : +- 5
cm3/1000s. : +- 5.0 + 5.0	rack travel mm : 0.85
Tolerance	Tolerance mm : + 0.55
cm3/1000 strokes : 6.0	Rated speed rpm : 950
Check tolerance + cm3/1000s. : 8.0 +	rack travel mm : 4.00
cm3/1000s. : 8.0	rack travel mm : 4.00 Rated speed rpm : 830
+	, , , , , , , , , , , , , , , , , , ,
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
Į	COM IDEC
GUIDE SLEEVE POSITION	control lever
Rated speed rpm : 800 +	position degree : 73.0 tolerance degree : +- 4.0
t	toter unite degree
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : +- 0.20	Datad speed man . /00
governor spring	Rated speed rpm : 400 rack travel mm : 5.40
pre-tension +	. ask state time . State
click setting x : 4.00	Testing:
+	Pated speed now . 400
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 400 rack travel mm : 5.90
TOLL LOND DELIVERY AT TOLL LOND STOT	Tolerance mm : + 0.10
Rated speed rpm : 600	
+	Rated speed rpm : 100

CRT mm min. : > 19.00 TORQUE CONTROL 600 Rated speed rpm 13.90 rack travel mm Tolerance mm : +- 0.05 START CUT-OUT Rated speed rpm : > 100 Check speed 1/min ; > 80 **BREAKAWAY** Rack travel in mm : 12.90 Rated speed rpm : Tolerance 1/min : +-STARTING FUEL DELIVERY 100 Rated speed rpm rack travel mm 20.50 : +- 0.50 Tolerance mm Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : + 25.0LOW IDLE Rated speed rpm 400 Del. quantity cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : +-5.0 Spreed Tolerance 6.0 cm3/1000 strokes : Check tolerance

8.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 13.06.96 : ISO 4113

Combination No. : 0 402 076 786

Injection pump

Pump designation : PES6P120A720RS3352

EP type number

: 0 412 026 780

Governor

: RSV400...750P4A606 Governer design.

: -1

Governer no.

: 0 421 833 515

Cust. part No. : RE66456

Customer-spec. information

Customer

: DEERE

Motor

: 6081AF001

Power KW

: 135.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 2.0

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm :

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Prestroke mm 3.60

: +- 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm : 10.50

Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.75

Start of delivery mark

\*NW after s.o.d. : 7.00

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

travel

14.00

Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm :

600

	+ Aneroid pressure
Rack travel in mm : 13.90 Tolerance mm : +- 0.05	hPa : - Del. quantity cm3/1000 strokes : 226.0
Del. quantity cm3/1000 strokes : 226.0	Tolerance + cm3/1000 strokes : +- 1.0 + Check tolerance
Tolerance cm3/1000 strokes : +- 1.0	+ cm3/1000s. : + 3.0 + Spreed + Tolerance
Check tolerance cm3/1000S. : +- 3.0	+ cm3/1000 strokes : 4.0 + Check tolerance + cm3/1000s. : 6.5
Spreed Tolerance	<del> </del>
cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000S. : 6.5	control lever position degree : 90.0 tolerance degree : + 4.0
Rated speed rpm : 400	RATED SPEED
Rack travel in mm : 5.90 Tolerance mm : +- 0.10 Del. quantity	rack travel mm : 12.90 Rated speed rpm : 760 Tolerance 1/min : +- 5
cm3/1000 strokes : 30.0 Tolerance cm3/1000 strokes : + 3.0	rack travel mm : 4.00 Rated speed rpm : 795
Check tolerance cm3/1000S. : + 5.0 Spreed	Tolerance 1/min : + 5  rack travel mm : 0.85
Tolerance cm3/1000 strokes : 6.0 Check tolerance	+ Tolerance mm : + 0.55 + Rated speed rpm : 950 +
cm3/1000S. : 8.0	rack travel mm : 4.00 Rated speed rpm : 830
(B) SETTING OF INJECTION PUMP	<del></del>
WITH GOVERNOR -	LOW IDLE
GUIDE SLEEVE POSITION	+ control lever + position degree : 73.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50 - Tolerance mm: + 0.20	Setting point w/out bumper spring
governor spring	Rated speed rpm : 400 rack travel mm : 5.40
pre-tension - click setting x : 4.00 -	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 400 rack travel mm : 5.90 Tolerance mm : +- 0.10
Rated speed rpm : 600	Rated speed rpm : 100

: > 19.00 CRT mm min. TORQUE CONTROL Rated speed rpm 600 13,90 rack travel mm Tolerance mm : +- 0.05 START CUT-OUT 100 Rated speed rpm : > Check speed 1/min ; > 80 BREAKAWAY Rack travel in mm : 12.90 Rated speed rpm : 760 Tolerance 1/min : +-STARTING FUEL DELIVERY Rated speed rpm 100 rack travel mm 20.50 Tolerance mm : +- 0.50 Del. quantity cm3/1000 strokes : 105.0 Tolerance cm3/1000 strokes : +- 20.0Check tolerance cm3/1000s. : +- 25.0 LOW IDLE Rated speed rpm : 400 Del. quantity cm3/1000 strokes : 30.0 Tolerance 3.0 cm3/1000 strokes : +-Check tolerance cm3/1000s.5.0 Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance

8.0

End of test specification sheet

cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.06.96 : 19.00.70 : ISO 4113

Combination No. : 0 403 466 151

Injection pump

Pump designation : PES6MW100/120RS1238

EP type number : 0 413 406 237

Governor

Governer no.

Governer design. : RSV450...1100MW2A367

: 0 420 085 250

Cust. part No. : 3926877

Customer-spec. information Customer : CDC : 6 CT Motor Power KW : 138.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 : +- 0.1

Tolerance bar

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar : +- 1.5 Tolerance bar

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar :+ 1.0

Prestroke mm 2.80 Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.50

Check

tolerance "NW : +- 0.75

Start of delivery blocking

°NW after s.o.d. : 8.00 : + - 0.50Tolerance

Check

tolerance °NW

: +- 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

15,00 travel Difference ° CS : 2.00

BASIC SETTING

Rated speed rpm : 1100	Aneroid pressure hPa : 1200
Rack travel in mm : 10.80 + Tolerance mm : +- 0.05	Del. quantity cm3/1000 strokes : 130.0 Tolerance
Del. quantity	cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 130.0	cm3/1000s. : +- 4.0  Spreed
Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : 4.0 Check tolerance
Check tolerance cm3/1000S. : +- 4.0	cm3/1000s. : 7.5
Spreed	
Tolerance + cm3/1000 strokes : 4.0 +	CONTROL LEVER
Check tolerance	control lever position degree : 90.5
cm3/1000s. : 7.5	tolerance degree : +- 4.0
Rated speed rpm : 450	RATED SPEED
Ţ	rack travel mm : 9.80
Rack travel in mm: 5.40	Rated speed rpm : 1165
Tolerance mm : + 0.10 + Del. quantity +	Tolerance 1/min : +- 5
cm3/1000 strokes : 24.5	rack travel mm : 6.40
Tolerance	Rated speed rpm : 1230 _
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 5
Check tolerance + 4.5 + 4.5	rack travel mm : 1.00
Spreed +	Tolerance mm : +- 0.70
Tolerance	Rated speed rpm : 1350
cm3/1000 strokes : 3.5	
Check tolerance + cm3/1000s. : 5.5 +	
till3/10003.	LOW IDLE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	control lever
+	position degree : 84.0
†	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	Rated speed rpm : 450 rack travel mm : 4.90
Rack travel in mm: 0.50	TOO GOOD WAR TO TOO GOOD TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TO TOO GOOD TOO GOOD TOO GOOD TO TOO GOOD TOO GOOD TO TOO GOOD TO TOO GOOD TOO GOOD TOO GOOD TOO GOOD TOO GOOD TOO GOOD TOO GOOD TOO G
Tolerance mm : +- 0.20	Testing:
governor spring +	Rated speed rpm : 450
pre-tension +	rack travel mm : 5.40
click setting x : 3.00	Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 100
+	CRT mm min. : > 19.00
Rated speed rpm : 1100 +	

TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 10.80 : +- 0.05
Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm rack travel mm Tolerance mm	: 1000 : 11.15 : + 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 500 : 1200
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 550 : 10.90 : +- 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity	: 1200 : 750
cm3/1000 strokes Tolerance	: 140.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 6.0
Check tolerance cm3/1000s.	: 9.0

Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 500 : 121.0 : +- 1.0 : +- 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 9.80 : 1165 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
LOW IDLE	
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 450 : 24.5 : +- 2.0 : +- 4.5 : 3.5 : 5.5
End of test specif	fication sheet

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.06.96 Test oil : 180 4113

Combination No. : 0 403 466 158

Injection pump

Pump designation : PES6MW100/120RS1240

EP type number : 0 413 406 239

Governor

Governer design. : RSV425...1100MW2A376

Governer no. : 0 420 085 259

Cust. part No. : 3929837

Customer-spec. information Customer : CDC Motor : 6 CTA-A : 172.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0
Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 Tolerance bar : +- 1.5

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar: 17.0 Tolerance bar : + 1.0

: 3.55 : +- 0.05 Prestroke mm Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +-1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.50 Tolerance

Check

tolerance \*NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 8.50

Tolerance : +- 0.50 Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack

: 15.00 travel Difference ° CS : 1.50

BASIC SETTING

Rated speed rpm : 1100	Aneroid pressure hPa : 900
Rack travel in mm : 12.75 Tolerance mm : +- 0.05	Del. quantity cm3/1000 strokes : 144.0 Tolerance
Del. quantity cm3/1000 strokes : 144.0	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Tolerance	Spreed Tolerance
cm3/1000 strokes : +- 1.0	cm3/1000 strokes : 4.0 Check tolerance
Check tolerance cm3/1000s. : + 4.0	cm3/1000s. : 7.5
Spreed Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance cm3/1000s. : 7.5	control lever position degree : 93.0 tolerance degree : +- 4.0
Rated speed rpm : 435	RATED SPEED
Rack travel in mm: 6.20 Tolerance mm: +- 0.10	rack travel mm : 11.70 Rated speed rpm : 1165 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 22.5 Tolerance	rack travel mm : 6.50 Rated speed rpm : 1230
cm3/1000 strokes : +- 2.0 + Check tolerance +	Tolerance 1/min : +- 5
cm3/1000s. : +- 4.5 Spreed Tolerance	rack travel mm : 1.00 Tolerance mm : +- 0.70 Rated speed rpm : 1350
cm3/1000 strokes : 3.5 Check tolerance	rack travel mm : 6.50
cm3/1000s. : 5.5	Rated speed rpm : 1230
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	LOW IDLE
GUIDE SLEEVE POSITION	control lever position degree : 70.0
Rated speed rpm : 800	tolerance degree : +- 4.0
Rack travel in mm: 0.50 + Tolerance mm: + 0.20 +	Setting point w/out bumper spring  Rated speed rpm : 435
governor spring pre-tension	rack travel mm : 5.70  Testing:
click setting x : 3.75	Rated speed rpm : 435
FULL LOAD DELIVERY AT FULL LOAD STOP	rack travel mm : 6.20 Tolerance mm : + 0.10
Rated speed rpm : 1100	Rated speed rpm : 100

CRT mm min.	: > 19.00
TORQUE CONTROL	
Rated speed rpm rack travel mm Tolerance mm	: 1100 : 12.75 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	akin mendikan benjagan pengangan pengangan pengangan pengangan pengangan pengangan pengangan pengangan pengang
SETTING	
Rated speed rpm Pressure hPa	: 500 : 900
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	
Rated speed rpm	; 500
Pressure hPa rack travel mm Tolerance mm	: 600 : 12.20 : + 0.20
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance cm3/1000S.	: + 1.0 : + 3.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: 11.70 : 1165 : <del>+</del> 5
STARTING FUEL DEL	

Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 20.50 : +- 1.00 : 145.5 : +- 10.0 : +- 13.0
LOW IDLE	
Rated speed rpm Del. quantity	: 435
cm3/1000 strokes	: 22.5
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s. Spreed	: +- 4.5

End of test specification sheet

cm3/1000 strokes : 3.5
Check tolerance
cm3/1000s. : 5.5

Tolerance

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 14.06.96 Test oil : ISO 4113

Combination No. : 0 403 466 161

Injection pump

Pump designation : PES6MW100/120RS1240

EP type number : 0 413 406 239

Governor

Governer design. : RSV500...1100MW2A379

Governer no. : 0 420 085 262

Cust. part No. : 3926882

Customer-spec. information Customer : CDC Motor : 6 CT Power KW : 161.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

: 40 : +- 2.0 temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 2.0 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 har : +- 1.5 Tolerance bar

Test Lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0 x length mm :

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm : 10.50 Tolerance mm : +-1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.75

Start of delivery blocking

\*NW after s.o.d. : 8.50 : +- 0.50

Tolerance

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

Beginning of delivery differende

and maximum rack

15.00 travel Difference \* CS : 1.50

BASIC SETTING

Rated speed rpm : 1100	Aneroid pressure hPa : 1200
Rack travel in mm : 12.25 Tolerance mm : +- 0.05	Del. quantity cm3/1000 strokes : 144.5 Tolerance
Del. quantity cm3/1000 strokes : 144.5	- cm3/1000 strokes : +- 1.0 - Check tolerance - cm3/1000S. : +- 4.0
Tolerance - 1.0	Spreed Tolerance cm3/1000 strokes : 4.0
Check tolerance cm3/1000s. : +- 4.0	Check tolerance cm3/1000s. : 7.5
	+
Spreed Tolerance cm3/1000 strokes : 4.0	CONTROL LEVER
Check tolerance	+ control lever + position degree : 105.0
cm3/1000s. : 7.5	tolerance degree : +- 4.0
Rated speed rpm : 500	RATED SPEED
	rack travel mm : 11.20
Rack travel in mm : 5.20 - Tolerance mm : + 0.10 -	+ Rated speed rpm : 1160 + Tolerance 1/min : +- 5
Del. quantity -	+
cm3/1000 strokes : 21.5	rack travel mm : 5.80 Rated speed rpm : 1230
Tolerance - cm3/1000 strokes : +- 2.0 -	Tolerance 1/min : +- 5
Check tolerance	+
cm3/1000s. : +- 4.5 Spreed	rack travel mm : 1.00 Tolerance mm : +- 0.70
Tolerance	Rated speed rpm : 1375
cm3/1000 strokes : 3.5	F
Check tolerance - cm3/1000s. : 5.5	rack travel mm : 5.80 Rated speed rpm : 1235
. 3.3	Tracea speed (pill 1 725)
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
	control lever
GUIDE SLEEVE POSITION	position degree : 85.0
Rated speed rpm : 800	tolerance degree : +- 4.0  Setting point w/out bumper spring
Rack travel in mm: 0.50	- second bour moor primper should
Tolerance mm : +- 0.20	Rated speed rpm : 500 rack travel mm : 4.70
governor spring	- I don travet limit . 4.70
pre-tension -	- Testing:
click setting x : 5.00	Rated speed rpm : 500
	- rack travel mm : 5.20
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1100	Rated speed rpm : 100

CRT mm min.	: > 19.00	Aneroid pressure hPa : -
TORQUE CONTROL		- Rated speed rpm : 500 - Del. quantity
Dated agend and	. 1100	+ cm3/1000 strokes : 119.5
Rated speed rpm rack travel mm		+ Tolerance + cm3/1000 strokes : +- 1.0
Tolerance mm		+ Check tolerance
Rated speed rpm	: 750	+ cm3/1000s. : +- 3.0
rack travel mm Tolerance mm	: 12.70	DDCAKANAY
roterance mm	: + 0.10	+ BREAKAWAY +
ANEROID/ALTITUDE COMPENSATOR TEST		Rack travel in mm : 11.20 Rated speed rpm : 1160 Tolerance 1/min : +- 5
SETTING		+
Rated speed rpm Pressure hPa	: 500 : 1200	STARTING FUEL DELIVERY
		+ Rated speed rpm : 100 + rack travel mm : 20.50
MEASUREMENT		+ rack travel mm : 20.50 + Tolerance mm : +- 1.00
Pressure hPa Rated speed rpm rack travel mm		Del. quantity
rack travel mm	: 500	cm3/1000 strokes : 145.5 Tolerance
rack travel mm Tolerance mm	: +- 0.20	+ cm3/1000 strokes : +- 10.0
Rated speed rpm	: 500	+ Check tolerance + cm3/1000s. : +- 13.0
Pressure hPa		<del>-</del>
rack travel mm		†
Tolerance mm	. +- 0.20	LOW IDLE
Pressure hPa rack travel mm	: 620	Fotod annual man a 500
Tolerance mm		+ Rated speed rpm : 500 + Del. quantity
		+ cm3/1000 strokes : 21.5
		+ Tolerance + cm3/1000 strokes : +- 2.0
Pier API Turali		- + Check tolerance
FUEL DELIVERY CHA	AKAUTEKISTIUS	
Aneroid pressure	4055	+ Tolerance
hPa Rated speed rpm	: 1200 : 750	+ cm3/1000 strokes : 3.5 + Check tolerance
Del. quantity		+ cm3/1000s. : 5.5
cm3/1000 strokes	: 155.5	+
Tolerance cm3/1000 strokes	: + 2.0	‡
Check tolerance		+
cm3/1000S. Spreed	: +- 5.0	
Tolerance		End of test specification sheet
cm3/1000 strokes	: 6.0	+
Check tolerance cm3/1000S.	: 9.0	Į.
		ı

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 11.05.95 : ISO 4113

Combination No. : 0 401 846 826

Injection pump

Pump designation : PE6P12OA32ORS3178 EP type number : 0 411 826 752

Governor

Governer design. : RQV250...1025PA921

: -2

Governer no.

: 0 421 813 785

Cust. part No. : 470930-P06 V. 06/92

Customer-spec. information

Customer : VOLVO-TRUCK

Motor

: TD122FS

Power KW

: 287.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration

damper

(RoBo diaphragm) : 4.2

Test oil inlet

temp. °C

Tolerance °C

Overflow valve : 2 417 413 046

Inlet press. bar :

1.5

Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

K27

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter: 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 3.65 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 Phasing

: -300

: **←** 0.30 Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 14.05

Tolerance mm	: +- 0.05 +	Spreed	
Del. quantity		Tolerance cm3/1000 strokes	: 5.0
cm3/1000 strokes	: 259.0	Check tolerance	. 5.0
		cm3/1000s.	: 9.0
Tolerance	+		
cm3/1000 strokes	: + 1.0		
Check tolerance	<u> </u>	CONTROL LEVER	
cm3/1000s.	: +- 4.0	CONTINOL LLACIN	
		control lever	
Spreed	+	position degree	
Tolerance	: 5.0	tolerance degree	: +- 4.0
cm3/1000 strokes	: 3.0	control lever	
Check tolerance	-	position degree	: 120.0
cm3/1000s.	: 9.0	tolerance degree	: +- 4.0
Data al marcal man	. 250	DATES COFFE	
Rated speed rpm	: 250	RATED SPEED	
	Ţ	rack travel mm	: 13.05
Rack travel in mm		Rated speed rpm	
Tolerance mm	: +- 0.15 <del> </del>	Tolerance 1/min	: +- 5
Del. quantity	. 20.0		. / 00
cm3/1000 strokes Tolerance	: 20.0	rack travel mm Rated speed rpm	: 4.00 : 1155
cm3/1000 strokes	: +- 2.5	Tolerance 1/min	
Check tolerance	·		
cm3/1000s.	: +- 5.0	rack travel mm	: 0.50
Spreed	†	Tolerance mm	: +- 0.50
Tolerance cm3/1000 strokes	: 5.0	Rated speed rpm	: 1250
Check tolerance	· 3.0		
	: 7.0		
	+	LOW IDLE	
(B) SETTING OF INJ	ECTION DUMP		
WITH GOVERNOR	ECTION POMP	control lever	
WITH GOVERNOR	<u> </u>	position degree	: 63.0
	+	tolerance degree	
	+		
GUIDE SLEEVE POSIT	ION	control lever position degree	: 10.0
Rated speed rpm	· 1130	tolerance degree	
Matea opeca i piii	+	coto, anto acg. co	
Rack travel in mm		Testing:	
Tolerance mm	: +- 1.30 +		250
		Rated speed rpm rack travel mm	
FULL LOAD DELIVERY	AT FULL LOAD STOP	Tolerance mm	: +- 0.15
TOLL LOND DELIVERY	+		. 5.79
Rated speed rpm	: 700 +	Rated speed rpm	: 100
Aneroid pressure	. 1200	CDT mm min	. > 4.10
hPa Del. quantity	: 1200	CRT mm min.	: > 6.40
cm3/1000 strokes	: 259.0 I	Rated speed rpm	: 325
Tolerance	+		·
cm3/1000 strokes	: +- 1.0 +		
Check tolerance	: +- 4.0		
cm3/1000s.	: +- 4.0 +		

# ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500
Pressure hPa : 1200
rack travel mm : 14.05
Tolerance mm : +- 0.05

#### **MEASUREMENT**

Pressure hPa : Rated speed rpm : 500
rack travel mm : 10.40
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 780 rack travel mm : 3.30 Tolerance mm : + 0.20

Pressure hPa : 105 rack travel mm : 0.25 Tolerance mm : + 0.05

# FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

Rated speed rpm : 700 Del. quantity

Det. quarterty

cm3/1000 strokes : 169.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  1.0

Check tolerance

cm3/1000s. : +- 4.0

## BREAKAWAY

Rack travel in mm: 13.05
Rated speed rpm: 1060
Tolerance 1/min: +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +-- 0.50

Del. quantity

cm3/1000 strokes : 290.0

Tolerance

cm3/1000 strokes : +- 20.0

Check tolerance

cm3/1000s. : +- 24.0

## LOW IDLE

Rated speed rpm : 250

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes : +- 2.5

Check tolerance

cm3/1000s. : +- 5.0

Spreed Tolerance

cm3/1000 strokes : 5.0

Check tolerance

cm3/1000s. : 7.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 13.06.96 Test oil : 180 4113

Combination No. : 0 402 076 795

Injection pump

Pump designation : PES6P120A720RS3369

EP type number : 0 412 026 789

Governor

Governer design. : RSV450...1075P1A631

Governer no. : 0 421 833 538

Cust. part No. :

Customer-spec. information

Customer : IVECO-FIAT

: 8365.26.584 Motor

Power KW : 144.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

Tolerance °C : : +- 2.0

Overflow valve : 2 417 413 034

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55 Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance °NW : +- ,.50

BASIC SETTING

Rated speed rpm : 1075

Rack travel in mm: 10.75

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 136.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance

: +- 4.0 cm3/1000s.

Spreed

Tolerance

cm3/1000 strokes : 5.0

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	<u> </u>
Check tolerance cm3/1000s. : 9.0	control lever position degree : 97.0 tolerance degree : +- 4.0
Rated speed rpm : 450	RATED SPEED
Rack travel in mm : 5.90 Tolerance mm : + 0.10 Del. quantity cm3/1000 strokes : 25.0	rack travel mm : 9.60 Rated speed rpm : 1150 Tolerance 1/min : +- 5
Tolerance - 3.0 - Check tolerance -	rack travel mm : 0.85 Tolerance mm : +- 0.55 Rated speed rpm : 1400
cm3/1000S. : +- 6.0 - Spreed - Tolerance	rack travel mm : 4.00 Rated speed rpm : 1235
cm3/1000 strokes : 8.0 - Check tolerance -	
cm3/1000s. : 12.0	- LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 73.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION	Setting point w/out bumper spring
Rated speed rpm : 800	- - Rated speed rpm : 450 - rack travel mm : 5.40
Rack travel in mm : 0.50 Tolerance mm : + 0.20	- Testing:
governor spring pre-tension click setting x : 3.50	Rated speed rpm : 450 rack travel mm : 5.90 Tolerance mm : +- 0.10
FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 1075	- rack travel mm : 2.00 - Rated speed rpm : 600 - Tolerance 1/min : +- 50 -
Aneroid pressure hPa : 900 Del. quantity	TORQUE CONTROL
cm3/1000 strokes : 136.0 + Tolerance cm3/1000 strokes : + 1.0 +	Rated speed rpm : 1075 rack travel mm : 10.75 Tolerance mm : +- 0.05
Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance	- Rated speed rpm : 700 - rack travel mm : 10.80 - Tolerance mm : +- 0.10
cm3/1000 strokes : 5.0 Check tolerance	- TOTEL BLUE HARD . TO U. 10
cm3/1000s. : 9.0	- ANEROID/ALTITUDE - COMPENSATOR TEST
CONTROL LEVER	- SETTING

Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 10.70 : +- 0.05	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 9.40 : ← 0.10	
Rated speed rpm	: 500	
Pressure hPa rack travel mm Tolerance mm	: 515 : 10.35 : +- 0.05	
FUEL DELIVERY CHA	RACTERISTICS	
Aneroid pressure hPa Rated speed rpm	: 900 : 700	
Del. quantity cm3/1000 strokes	: 145.0	
Tolerance cm3/1000 strokes	: + 3.0	
Check tolerance cm3/1000s.	: +- 6.0	
Aneroid pressure hPa Rated speed rpm	: - : 500	
Del. quantity cm3/1000 strokes	: 85.0	
Tolerance cm3/1000 strokes Check tolerance	: + 1.0	
cm3/1000s.	: +- 4.0	
BREAKAWAY		
Rack travel in mm Rated speed rpm Tolerance 1/min	: 1150	
STARTING FUEL DELIVERY		
Rated speed rpm rack travel mm Tolerance mm Del. quantity cm3/1000 strokes	: 100 : 20.25 : +- 0.75 : 145.0	

Tolerance cm3/1000 strokes : +- 15.0 Check tolerance cm3/1000s. : +- 19.0

# LOW IDLE

Rated speed rpm : 450
Del. quantity
cm3/1000 strokes : 25.0
Tolerance
cm3/1000 strokes : +- 3.0
Check tolerance
cm3/1000s. : +- 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000s. : 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.94 Test oil : ISO 4113

Combination No. : 0 402 646 865

Injection pump

Pump designation : PE6P12OA72ORS7020 EP type number : 0 412 626 828

Governor

Governer design. : RQV200...1000PA539

: -8

Governer no. : 0 421 813 635

Cust. part No. : 1121370

Customer-spec. information Customer : SCANIA Motor : DS11 34

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance \*NW : + 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.95
Tolerance mm : + 0.05

No. I gunntity	
Del. quantity +	- Tolerance
cm3/1000 strokes : 209.0	cm3/1000 strokes : 6.0
+	· Check tolerance
Tolerance	- cm3/1000s. : 9.0
cm3/1000 strokes : +- 1.0	•
+	•
Check tolerance	
cm3/1000s. : +- 4.0	- CONTROL LEVER
	•
Spreed	control lever
Tolerance	position degree : 59.0
cm3/1000 strokes : 6.0	tolerance degree : +- 4.0
+	
Check tolerance	control lever
cm3/1000s. : 9.0	position degree : 117.0
+	tolerance degree : +- 4.0
Rated speed rpm : 225	
+	RATED SPEED
+	
Rack travel in mm: 4.70	rack travel mm : 11.90
Tolerance mm : + 0.10	Rated speed rpm : 1045
Del. quantity +	Tolerance 1/min : +- 5
cm3/1000 strokes : 20.0	
Tolerance +	rack travel mm : 4.00
cm3/1000 strokes : +- 2.0 +	Rated speed rpm : 1150
Check tolerance +	Tolerance 1/min : +- 15
cm3/1000s. : + 4.0 +	
Spreed	rack travel mm : 0.50
Tolerance +	Tolerance mm : + 0.50
cm3/1000 strokes : 3.0	Rated speed rpm : 1250
Check tolerance +	
cm3/1000s. : 6.0	
<del>†</del>	
†	LOW IDLE
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR +	
<del>†</del>	control lever
†	position degree : 65.0
	tolerance degree : +- 4.0
GUIDE SLEEVE POSITION +	3
GOIDE SEELVE 1 COIT TOIL	•
+	control lever
Rated speed rpm : 1050	control lever position degree : 9.0
Rated speed rpm : 1050	control lever
Rated speed rpm : 1050  Rack travel in mm : 16.50	control lever position degree : 9.0 tolerance degree : +- 4.0
Rated speed rpm : 1050	control lever position degree : 9.0
Rated speed rpm : 1050  Rack travel in mm : 16.50	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:
Rated speed rpm : 1050  Rack travel in mm : 16.50  Tolerance mm : + 1.30	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225
Rated speed rpm : 1050  Rack travel in mm : 16.50	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : +- 0.10
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : +- 0.10  Rated speed rpm : 100
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : +- 0.10
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 209.0	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : + 0.10  Rated speed rpm : 100  CRT mm min. : > 6.10
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 209.0 Tolerance	control lever position degree : 9.0 tolerance degree : +- 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : +- 0.10  Rated speed rpm : 100
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : + 1.0	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : + 0.10  Rated speed rpm : 100  CRT mm min. : > 6.10
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : + 0.10  Rated speed rpm : 100  CRT mm min. : > 6.10  Rated speed rpm : 275
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : + 0.10  Rated speed rpm : 100  CRT mm min. : > 6.10
Rated speed rpm : 1050  Rack travel in mm : 16.50 Tolerance mm : + 1.30  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 700 Aneroid pressure hPa : 900 Del. quantity cm3/1000 strokes : 209.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 9.0 tolerance degree : + 4.0  Testing:  Rated speed rpm : 225 rack travel mm : 4.70 Tolerance mm : + 0.10  Rated speed rpm : 100  CRT mm min. : > 6.10  Rated speed rpm : 275

rack travel mm Tolerance mm	: 12.95 : + 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 900 : 12.95 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.70 : + 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 320 : 11.20 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 520 : 12.35 : + 0.05
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa	: 900 : 1000 : 202.0 : + 4.0 : + 6.0
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance cm3/1000 strokes	: 153.0 : +- 2.0
Check tolerance cm3/1000s.	: +- 4.0

Rack travel in mm : 11.90
Rated speed rpm : 1045
Tolerance 1/min : +- 5

# STARTING FUEL DELIVERY

Rated speed rpm : 100
rack travel mm : 20.50
Tolerance mm : +- 0.50
Del. quantity
cm3/1000 strokes : 300.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000s. : +- 24.0

## LOW IDLE

Rated speed rpm : 225 Del. quantity cm3/1000 strokes : 20.0 Tolerance cm3/1000 strokes : +- 2.0 Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance : cm3/1000s. 6.0

End of test specification sheet

BREAKAWAY

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 17.06.96 Test oil : ISO 4113

Combination No. : 0 402 646 877

Injection pump

Pump designation : PE6P130A720RS7122-1

EP type number : 0 412 636 812

Governor

Governer design. : RQV225...930PA922

Governer no. : 0 421 813 763

Cust. part No. : 1556029 P02

Customer-spec. information

Customer : VOLVO-TRUCK Motor : TD162 FL,FJ,

Power KW : 331.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.65
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 13.50

Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 302.5

Tolerance

cm3/1000 strokes : +- 1.5

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Check tolerance cm3/1000s. : +- 5.0	CUYNE OLEFUS POOLETAN
Chanad	+ GUIDE SLEEVE POSITION
Spreed Tolerance	Rated speed rpm : 1100
cm3/1000 strokes : 6.0	T Nated speed (pill : 1100
CIID/1000 3110/63 . 0.0	Rack travel in mm : 9.00
Check tolerance	Tolerance mm : +- 1.30
cm3/1000s. : 10.0	1000 11100 11111
1 1010	
Rated speed rpm : 250	FULL LOAD DELIVERY AT FULL LOAD STOP
	+
	A Rated speed rpm : 700
Rack travel in mm : 5.00	+ Aneroid pressure
Tolerance mm : +- 0.10	+ hPa : 1200
Del. quantity	+ Del. quantity
cm3/1000 strokes : 28.0	+ cm3/1000 strokes : 302.5
Tolerance	+ Tolerance
cm3/1000 strokes : +- 2.5	+ cm3/1000 strokes : +- 1.5
Check tolerance	+ Check tolerance
cm3/1000s. : +- 5.0	+ cm3/1000s. : +- 5.0
Spreed	+ Spreed
Tolerance cm3/1000 strokes : 5.0	+ Tolerance + cm3/1000 strokes : 6.0
cm3/1000 strokes : 5.0 Check tolerance	- Check tolerance
cm3/1000s. : 8.0	+ cm3/1000s. : 10.0
CIII37 10003 0.0	I (11) 10003 10.0
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	CONTROL LEVER  control lever
GUIDE SLEEVE TRAVEL	position degree : 65.0
GOIDE SEELVE TRAVEE	tolerance degree : +- 4.0
Rated speed rpm : 250	+
guide sleeve	∔ control lever
travel mm : 1.20	position degree : 120.0
Tolerance mm : +- 0.20	+ tolerance degree : +- 4.0
	+
Rated speed rpm : 975	+ RATED SPEED
guide sleeve	†
travel mm : 8.30	+ rack travel mm : 12.50
Tolerance mm : + 0.10	+ Rated speed rpm : 975 + Tolerance 1/min : +- 5
Rated speed rpm : 350	† Tolerance 1/min : +- 5
Rated speed rpm : 350 guide sleeve	rack travel mm : 4.00
travel mm : 2.40	Rated speed rpm : 1105
Tolerance mm : +- 0.30	Tolerance 1/min : + 15
TO COT OF THE COUNTY	To cer and a ramine
Rated speed rpm : 700	rack travel mm : 0.50
quide sleeve	Tolerance mm : +- 0.50
travel mm : 5.90	Rated speed rpm : 1200
Tolerance mm : +- 0.30	+
	+
Rated speed rpm : 1090	†
guide sleeve	+ LOW IDLE
travel mm : 9.70	+ LOW IDLE
guide sleeve travel mm : 9.70 Tolerance mm : +- 0.20	‡
travel mm : 9.70	control lever position degree : 64.0

Testing:		+ Tolerance + cm3/1000 strokes : +- 1.5 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm	: 5. <b>0</b> 0	- cm3/1000s. : +- 5.0
Rated speed rpm	: 100	BREAKAWAY
CRT mm min.	: > 6.50	Rack travel in mm : 12.50
Rated speed rpm	: 350	Rated speed rpm : 975 Tolerance 1/min : +- 5
TORQUE CONTROL		STARTING FUEL DELIVERY
Rated speed rpm rack travel mm Tolerance mm	: 13.50	Rated speed rpm : 100 rack travel mm : 9.60 Tolerance mm : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST		-
SETTING		+ Check tolerance + cm3/1000s. : +- 14.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1200 : 13.50	LOW IDLE
MEASUREMENT		Rated speed rpm : 250 Del. quantity
Pressure hPa Rated speed rpm rack travel mm	: - : 500 : 9.60	cm3/1000 strokes : 28.0 Tolerance cm3/1000 strokes : +- 2.5
Tolerance mm Rated speed rpm	: ← 0.10 : 500	+ Check tolerance + cm3/1000s. : +- 5.0 + Spreed
Pressure hPa rack travel mm	: 720 : 3.60	Tolarance + cm3/1000 strokes : 5.0 + Check tolerance
Toterance mm	: <b>-</b> 0.10	cm3/1000s. : 8.0
Pressure hPa rack travel mm Tolerance mm	: 85 : 0.25 : ← 0.05	<del> </del>

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 24,06,94 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 878

Injection pump

Pump designation : PE6P12OA72ORS7020

EP type number : 0 412 626 828

Governor

Governer design. : RQV200...1000PA539

: -11

Governer no. : 0 421 813 813

Cust. part No. : 1121371

Customer-spec. information Customer : SCANIA

Motor : DS11 34

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C 40 : +- 2.0 Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 1.5

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar :  $\leftarrow$  1.0

Prestroke mm 5.05 Tolerance mm : +- 0.05

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

: **←** 0.30 Tolerance

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance "NW : +- 0.75

1 Barrel no. :

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.95

Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes	: 209.0	control lever position degree	• 117 0
Tolerance cm3/1000 strokes	: +- 1.0	tolerance degree	
Check tolerance		+ RATED SPEED	
cm3/1000s.	: +- 4.0	rack travel mm Rated speed rpm	: 1045
Spreed Tolerance		+ Tolerance 1/min	: +- 5
cm3/1000 strokes	: 6.0	rack travel mm Rated speed rpm	: 1150
Check tolerance cm3/1000s.	: 9.0	+ Tolerance 1/min	: +- 15
Rack travel in mm Tolerance mm	: 4.70	rack travel mm Tolerance mm Rated speed rpm	: +- 0.50
rocerance nun	0.10	Ŧ	
(B) SETTING OF IN. WITH GOVERNOR	JECTION PUMP	LOW IDLE	
		+ control lever	
		+ position degree	: 65.0
GUIDE SLEEVE POST	TION	tolerance degree	
Rated speed rpm	: 1050	control lever	: 9.0
Rack travel in mm Tolerance mm		tolerance degree	
roter arice likil	, += 1.50	Testing:	
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm	: 225
0-4-4	. 700	rack travel mm Tolerance mm	: 4.7U
Rated speed rpm Aneroid pressure		Toterance min	: +- 0.10
hPa	: -	Rated speed rpm	: 100
Del. quantity		+	
cm3/1000 strokes Tolerance	: 209.0	CRT mm min.	: > 6.10
cm3/1000 strokes Check tolerance	: +- 1.0	Rated speed rpm	: 275
cm3/1000s.	: +- 4.0		
Spreed Tolerance		TORQUE CONTROL	
cm3/1000 strokes	: 6.0	Rated speed rpm rack travel mm	: 1000 : 12.95
Check tolerance cm3/1000s.	: 9.0	Tolerance mm	: + 0.05
CONTROL LEVER		ANEROID/ALTITUDE COMPENSATOR TEST	
		1 201.11 2110/11/01	
control lever position degree		SETTING	
tolerance degree	· + +.U	Rated speed rpm	: 500
	-	Pressure hPa	900

rack travel mm Tolerance mm	: 12.95 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.70 : +- 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 320 : 11.20 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 520 : 12.35 : +- 0.05
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa	:
Rated speed rpm Del. quantity cm3/1000 strokes	
Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 6.0
Aneroid pressure	0.0
hPa	; -
Rated speed rpm Del. quantity	: 500
cm3/1000 strokes Tolerance	: 153.0
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s.	: +- 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm	: 11.90

Del. quantity cm3/1000 strokes : 300.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0

End of test specification sheet

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STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm :  $\leftarrow$  0.50

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 14.06.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 648 602

Injection pump

Pump designation : PE8P110A320RS7398 EP type number : 0 412 618 800

Governor

Governer design. : RQV300...900PA1252K

Governer no. : 0 421 815 484

Cust. part No. :

Customer-spec. information Customer : TATRA : T3B-928.60 Motor : 255.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C 40 Tolerance \*C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Overflow quantity

min. L/h : 110 Tolerance L/h : + 20.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

rest pressure bar : 26.0 Tol rce bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 13.00 Tolerance mm : +- 1.00

Firing order : 1-8-5-4-7 :-2-3-6

Phasing : 0-45-90-135-180

: -225-270-315 Tolerance : +-0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : + 0.10

Check

tolerance \*NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 14.00 Tolerance mm :  $\leftarrow$  0.05

Del. quantity cm3/1000 strokes : 19	21.0	Rated speed rpm guide sleeve	: 1260
Tolerance cm3/1000 strokes : +-	1.0	travel mm Tolerance mm	: 13.50 : + 0.50
CIID/ TODO SCROKES . T-	1.0		
Check tolerance cm3/1000s. : +-	4.0	GUIDE SLEEVE POSIT	
Spreed	<u> </u>	Rated speed rpm	: 1115
Tolerance	5.0	Rack travel in mm Tolerance mm	
Check tolerance cm3/1000s. :	9.0	FULL LOAD DELIVERY	' AT FULL LOAD STOP
Rated speed rpm : 25	50 <del>-</del>	Rated speed rpm Aneroid pressure	: 900
5	+	hPa	: 1500
Rack travel in mm : 5 Tolerance mm : +- 0	1.10	Del. quantity cm3/1000 strokes	• 101 0
Del. quantity	Ţ	Tolerance	. (71.0
cm3/1000 strokes : 2	6.0	cm3/1000 strokes	: +- 1.0
Tolerance cm3/1000 strokes : +-	3.0	Check tolerance cm3/1000s.	: +- 4.0
Check tolerance	3.0	Spreed	. + 4.0
cm3/1000s. : +-	6.0	Tolerance	
Spreed	†	cm3/1000 strokes Check tolerance	: 5.0
Tolerance cm3/1000 strokes :	8.0		: 9.0
Check tolerance	+	-	
cm3/1000s. : 1	2.0		
	I	CONTROL LEVER	
(B) SETTING OF INJECTION	PUMP		
WITH GOVERNOR	†	control lever position degree	: 65.0
		tolerance degree	
GUIDE SLEEVE TRAVEL	+		
Rated speed rpm : 30		control lever position degree	• 110 n
Rated speed rpm : 30 guide sleeve	Ĭ	tolerance degree	
travel mm : 1	.63	-	
Tolerance mm : + 0	.20	RATED SPEED	
Rated speed rpm : 958	8 I	rack travel mm	: 13.00
guide sleeve	+	Rated speed rpm	: 945
travel mm : 8 Tolerance mm : + 0		Tolerance 1/min	; +- 5
Tolerance mm : + 0	.13	rack travel mm	: 4.00
Rated speed rpm : 77	7	Rated speed rpm	: 1065
guide steeve	70	Tolerance 1/min	: +- 15
travel mm : 6. Tolerance mm : +- 0.	.70 +	rack travel mm	: 0.50
	+	Tolerance mm	: +- 0.50
Rated speed rpm : 520 guide sleeve	+	Rated speed rpm	: 1150
	.73		
Tolerance mm : + 0.	.25	IOW THE	

LOW IDLE

		† Tolerance mm : +- 0.15
control lever position degree tolerance degree	: 70.0 : + 4.0	Pressure hPa : 750 - rack travel mm : 12.75 - Tolerance mm : +- 0.05
control lever position degree tolerance degree	: 16.0 : + 4.0	START CUT-OUT
Testing:		+ Rated speed rpm : > 100 + Rated speed rpm : < 170
Rated speed rpm rack travel mm Tolerance mm	: 250 : 5.40 : +- 0.10	Check speed 1/min :> 80 Check speed 1/min : < 190
Rated speed rpm	: 150	<u> </u>
CRT mm min.	: > 6.00	FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 350	Aneroid pressure hPa : 1500 Rated speed rpm : 600
TORQUE CONTROL		Del. quantity  cm3/1000 strokes : 198.0
Rated speed rpm rack travel mm Tolerance mm	: 900 : 14.00 : +- 0.05	Tolerance cm3/1000 strokes : +- 2.0 check tolerance cm3/1000s. : +- 5.0
Rated speed rpm rack travel mm Tolerance mm	: 13.10	+ Aneroid pressure
Rated speed rpm rack travel mm Tolerance mm	• 300	Rated speed rpm : 500  Del. quantity  cm3/1000 strokes : 129.0  Tolerance  cm3/1000 strokes : +- 2.0
ANEROID/ALTITUDE COMPENSATOR TEST		Check tolerance : +- 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : 1500 : 14.00 : +- 0.05	Rack travel in mm: 13.00 Rated speed rpm: 945 Tolerance 1/min: +- 5
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 900 : 8.60 : + 0.20	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : + 0.50
Rated speed rpm	: 900	Del. quantity cm3/1000 strokes : 255.0
Pressure hPa rack travel mm	: 375 : 10.15	Tolerance + cm3/1000 strokes : +- 20.0 +

Check tolerance		
cm3/1000s.	: +-	24.0

# LOW IDLE

Rated speed rpm Del. quantity	:	250	
cm3/1000 strokes	:	26.0	
Tolerance cm3/1000 strokes	; +-	3.0	
Check tolerance cm3/1000s.	: +-	6.0	
Spreed	•	•••	
Tolerance cm3/1000 strokes	:	8.0	
Check tolerance cm3/1000S.	:	12.0	

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 25.04.96

Test oil

: ISO 4113

Combination No. : 0 402 648 602A

Injection pump

Pump designation : PE8P110A320RS7398

EP type number : 0 412 618 800

Governor

Governer design. : RQV300...900PA1252K

Governer no.

: 0 421 815 484

Cust. part No. :

Customer-spec. information

: TATRA Customer

: T3B-928.50 Motor

: 230.0 Power KW

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

40 Tolerance °C : **←** 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Tolerance bar : +- 0.1

Test nozzle holde

: 1 688 901 101 assembly

Opening pressure

: 208.5 bar

Tolerance bar

Test Lines : 1 680 750 008

Outside diameter : 6.0

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x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 5.05 Tolerance mm : + 0.05

Check

tolerance mm : + 0.10

Rack travel in mm : 13.00

Tolerance mm : + 1.00

Firing order : 1-8-5-4-7

: - 2- 3- 6

: 0-45-90-135-180 Phasing

: -225-270-315

Tolerance : +- 0.30

Check

tolerance °NW : + 0.50

Start of delivery mark

Tolerance :  $\leftarrow$  0.50

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.30

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 175.0

Tolerance cm3/1000 strokes	: +- 1.0	Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	; +- 4.0	GUIDE SLEEVE POSITION
Spreed		Rated speed rpm : 1120
Tolerance cm3/1000 strokes	: 5.0	Rack travel in mm : 12.30 Tolerance mm : +- 1.30
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 250	Rated speed rpm : 900 Aneroid pressure hPa : -
Rack travel in m Tolerance mm		Del. quantity cm3/1000 strokes : 175.0
Del. quantity cm3/1000 strokes	: 26.0	Tolerance : + 1.0
Tolerance cm3/1000 strokes Check tolerance	: <b>←</b> 3.0	- Check tolerance - cm3/1000s. : +- 4.0 - Spreed
cm3/1000s. Spreed	: +- 6.0	Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes	: 8.0	- Check tolerance - cm3/1000s. : 9.0
Check tolerance cm3/1000s.	: 12.0	† †
(B) SETTING OF IN	NJECTION PUMP	control Lever position degree : 61.0
GUIDE SLEEVE TRAN	VEL .	tolerance degree : +- 4.0
Rated speed rpm guide sleeve travel mm Tolerance mm		<pre>control lever position degree : 115.0 tolerance degree : +- 4.0 RATED SPEED</pre>
Rated speed rpm guide sleeve travel mm	: 957 : 8.79	rack travel mm : 12.30 Rated speed rpm : 945 Tolerance 1/min : +- 5
Tolerance mm	: + 0.15	rack travel mm : 4.00
Rated speed rpm guide sleeve	: 776	Rated speed rpm : 1095 Tolerance 1/min : + 15
travel mm Tolerance mm	: 6.70 : ← 0.25	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve		Rated speed rpm : 1100
travel mm Tolerance mm	: 3.73 : + 0.25	
Rated speed rpm	: 1260	+ LOW IDLE
guide sleeve travel mm	: 13.50	Ţ

		1
control lever position degree tolerance degree	: 72.0 : +- 4.0	+ Pressure hPa : 750 - rack travel mm : 12.25 - Tolerance mm : +- 0.05
control lever position degree tolerance degree Testing:	: 18.0 : +- 4.0	START CUT-OUT  Rated speed rpm : > 100 Rated speed rpm : < 170
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm	: 5.40 : +- 0.10	Check speed 1/min : > 80 Check speed 1/min : < 190
CRT mm min.		FUEL DELIVERY CHARACTERISTICS
Rated speed rpm		+ Aneroid pressure + hPa : -
TORQUE CONTROL		Rated speed rpm : 600  Del. quantity  100
Rated speed rpm rack travel mm Tolerance mm	: 13.30	+ cm3/1000 strokes : 182.0 + Tolerance + cm3/1000 strokes : + 2.0 + Check tolerance
Rated speed rpm rack travel mm Tolerance mm Rated speed rpm rack travel mm Tolerance mm	: 12.30 : +- 0.10	- cm3/1000s. : + 5.0  - Aneroid pressure - hPa : Rated speed rpm : 500 - Del. quantity - cm3/1000 strokes : 129.0 - Tolerance
ANEROID/ALTITUDE COMPENSATOR TEST		- cm3/1000 strokes : + 2.0 - Check tolerance - cm3/1000s. : : - 4.0
SETTING		BREAKAWAY
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 900 : 1500 : 13.30 : ← 0.05	Rack travel in mm: 12.30 Rated speed rpm: 945 Tolerance 1/min: +- 5
MEASUREMENT		STARTING FUEL DELIVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 900 : 8.60 : +- 0.20	Rated speed rpm : 100 rack travel mm : 20.50 Tolerance mm : +- 0.50 Del. quantity
Rated speed rpm	: 900	+ cm3/1000 strokes : 255.0 + Tolerance
Pressure hPa rack travel mm Tolerance mm	: 425 : 10.00 : + 0.15	cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0

## LOW IDLE

Rated speed rpm : 250
Del. quantity
cm3/1000 strokes : 26.0
Tolerance
cm3/1000 strokes : + 3.0
Check tolerance
cm3/1000s. : + 6.0
Spreed
Tolerance
cm3/1000 strokes : 8.0
Check tolerance
cm3/1000 strokes : 8.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 19.06.96 : ISO 4113

Combination No. : 0 402 744 804

Injection pump

Pump designation : PES4P120A320RS7402

EP type number : 0 412 724 804

Governor

Governer design. : RQV275...1200PA1257K

Governer no. : 0 421 815 494

Cust. part No. : CCEP 5154A 66-238

Customer-spec. information

Customer : RENAULT V.I.

: MIDR 04-02-26 A4 Motor

Power KW : 100.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C Tolerance °C : +- 2.0

Overflow valve : 2 417 413 071

Inlet press. bar : 2.5

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5

Tolerance bar

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 5.10 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 13.00

Tolerance mm : +- 0.50

Firing order : 1-3-4-2

: 0-90-180-270 : +- 0.30 Phasing

Tolerance

Check

tolerance °NW : +- 0.50

Start of delivery mark

\*NW after s.o.d. : -0.30

: ← 0.50 Tolerance

Check

tolerance °NW : +- 0.75

Barrel no. : 1

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

: 13.00 travel Difference ° CS : 2.40

BASIC SETTING

Rated speed rpm : 1200

Rack travel in mm : 13.20 + Tolerance mm : +- 0.05	guide sleeve travel mm : 3.92 Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes : 250.0	Rated speed rpm : 1650 guide sleeve
Tolerance cm3/1000 strokes : +- 1.0	travel mm : 13.50 Tolerance mm : +- 0.50
Check tolerance cm3/1000s. : +- 4.0	GUIDE SLEEVE POSITION
Spreed	Rated speed rpm : 1450
Tolerance cm3/1000 strokes : 5.0	Rack travel in mm : 12.10 Tolerance mm : +- 1.50
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 325	Rated speed rpm : 1200 Aneroid pressure
Rack travel in mm: -8.50	hPa : 1200 Del. quantity
Tolerance mm : +- 0.10	cm3/1000 strokes : 250.0
Del. quantity + cm3/1000 strokes : 29.0 +	Tolerance cm3/1000 strokes : +- 1.0
Tolerance cm3/1000 strokes : +- 2.0	Check tolerance cm3/1000s. : +- 4.0
Check tolerance	Spreed
cm3/1000s. : + 6.0 +	Tolerance cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0 + Check tolerance	cm3/1000s. : 9.0
cm3/1000s. : 12.0	
‡	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR +	position degree : 298.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
+	RATED SPEED
Rated speed rpm : 325 + guide sleeve +	rack travel mm : -1.00
travel mm : 1.52	Rated speed rpm : 1260
Tolerance mm : + 0.20	Tolerance 1/min : +- 5
Rated speed rpm : 1260	rack travel mm : -9.20
guide sleeve + travel mm : 10.32 +	Rated speed rpm : 1410 Tolerance 1/min : +- 15
Tolerance mm : - 0.15	
Rated speed rpm : 938 - guide sleeve	rack travel mm : −12.70 Tolerance mm : + 0.50 Rated speed rpm : 1500
travel mm : 6.86 Tolerance mm : + 0.25	
Rated speed rpm : 550	LOW IDLE

control lever position degree tolerance degree	: 255.0 : +- 4.0
Testing:	
Rated speed rpm rack travel mm Tolerance mm	: 325 : -8.50 : + 0.10
Rated speed rpm	: 225
CRT mm min.	: < 7.00
Rated speed rpm	: 390
TORQUE CONTROL	
Rated speed rpm	: 1200
Rated speed rpm rack travel mm Tolerance mm	: 850 : -1.00 : +- 0.10
Rated speed rpm rack travel mm Tolerance mm	: 700 : −1.80 : ← 0.20
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa	: 1200 : 1200
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 1200 : -2.70 : + 0.20
Rated speed rpm	: 1200
Pressure hPa rack travel mm Tolerance mm	: 200 : -2.10 : + 0.20
Pressure hPa rack travel mm Tolerance mm	: 440 : −0.80 : ← 0.05
START CUT-OUT	

Rated speed rpm Rated speed rpm	: > 130 : < 265
Check speed 1/min Check speed 1/min	: > 110 : < 275
FUEL DELIVERY CHA	RACTERISTICS
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1200 : 850 : 239.0 : +- 3.0 : +- 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 1200 : 185.0 : + 1.0 : + 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm Tolerance 1/min	: -1.00 : 1260 : +- 5
STARTING FUEL DEL	IVERY
Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 100 : 110.0 : +- 15.0 : +- 19.0
LOW IDLE	
Rated speed rpm Del. quantity cm3/1900 strokes	: 325 : 29.0

Tolerance

cm3/1000 strokes : +- 2.0

Check tolerance cm3/1000s. 6.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Eaition Test oil : 31,05,96 : ISO 4113

Combination No. : 0 402 746 844

Injection pump

Pump designation : PES6P12OA32ORS7162

EP type number : 0 412 726 819

Governor

Governer design. : RQ750PA836-2

Governer no.

: 0 421 801 628

Cust. part No. :

Customer-spec. information : PERKINS Customer : 2006 TAG Motor Power KW : 280.0

TEST BENCH REQUIREMENTS

Inlet line : 4.1

Test oil inlet

temp. °C

40

Tolerance °C

: +-

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 067

Outside diameter : 6.0

x inside diameter : 1.5 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +-1.0

Prestroke mm 4.55 Tolerance mm : +- 0.05

Check

: +- 0.10tolerance mm

Rack travel in mm : 10.50 : +- 1.50 Tolerance mm

: 1-4-2-6-3-Firing order

: 0-60-120-180-240 Phasing

: -300 : +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm : 13.05 Tolerance mm : +- 0.05

Del. quantity cm3/1000 strokes :

380.0

Tolera.

cm3/1000 strokes : +- 1.0

Check tolerance

cm3/1000s.

: ← 4.0

Spreed

Tolerance cm3/1000 strokes	: 5.0	Tolerance cm3/1000 strokes Check tolerance	: +- 1.0
Check tolerance cm3/1000s.	: 9.0	cm3/1000S. Spreed Tolerance	: +- 4.0
Rated speed rpm	: 300	cm3/1000 strokes Check tolerance	: 5.0
Del. quantity cm3/1000 strokes Tolerance	: 41.0	cm3/1000s.	: 9.0
cm3/1000 strokes Check tolerance	+	CONTROL LEVER	
cm3/1000s. Spreed	: +- 6.0	control lever	
Tolerance cm3/1000 strokes		position degree tolerance degree	
Check tolerance cm3/1000s.	: 12.0		
	‡	ASSEMBLY GOVERNOR	
(B) SETTING OF IN WITH GOVERNOR	NJECTION PUMP	Rated speed rpm rack travel mm	
GUIDE SLEEVE TRAN	/EL	Rated speed rpm Tolerance 1/min	
Rated speed rpm	+	rack travel mm	
guide sleeve travel mm	: 1.84	rack travel mm Tolerance mm	: 0.50 : + 0.50
Tolerance mm		Rated speed rpm	
Rated speed rpm guide sleeve	+	Rated speed rpm rack travel mm	
travel mm Tolerance mm	: 42.98 : + 0.25	Rated speed rpm Tolerance 1/min	
Rated speed rpm guide sleeve	: 820	rack travel mm	
travel mm Tolerance mm	: 9.41 : + 0.25	rack travel mm Tolerance mm	: 0.50 : ← 0.50
Rated speed rpm	+	Rated speed rpm	: 820
guide sleeve travel mm	1	Rated speed rpm rack travel mm	: 752 : 12.00
Tolerance mm	: +- 0.25	Rated speed rpm	
Rated speed rpm quide sleeve	: 880	Tolerance 1/min rack travel mm	: +- 4
guide sleeve travel mm Tolerance mm	: 11.50 : +- 0.50	rack travel mm	
TO COT GITCE THE		Tolerance mm Rated speed rpm	: +- 0.50
FULL LOAD DELIVER	Y AT FULL LOAD STOP	Rated speed rpm	
Rated speed rpm Aneroid pressure		rack travel mm	
hPa Del. quantity	: -	Rated speed rpm Tolerance 1/min	
cm3/1000 strokes	: 380.0	rack travel mm	

rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 820
Rated speed rpm	: 754
rack travel mm	: 12.00
Rated speed rpm	: 788
Tolerance 1/min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 820
Rated speed rpm	: 755
rack travel mm	: 12.00
Rated speed rpm	: 789
Tolerance 1'min	: +- 4
rack travel mm	: 4.00
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 820

1	n	D(	31.1	Ε	C	O٨	T	R٥	N
	v	,,,		_	•	$\mathbf{v}_{\mathbf{l}}$			_

Rated speed rpm : 700 rack tra/el mm : 13.05 Tolerance mm : + 0.05

## STARTING FUEL DELIVERY

Rated speed rpm : 100
Del. quantity
cm3/1000 strokes : 320.0
Tolerance
cm3/1000 strokes : +- 20.0
Check tolerance
cm3/1000s. : +- 24.0

### LOW IDLE

Rated speed rpm : 300 Del. quantity cm3/1000 strokes : 41.0

Tolerance		
cm3/1000 strokes	: +-	3.0
Check tolerance		
cm3/1000s.	: +-	6.0
Spreed		
Tolerance		
cm3/1000 strokes	:	8.0
Check tolerance		
cm3/1000s.	:	12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 10,06,96 : ISO 4113

Combination No. : 9 400 087 424

Injection pump

Pump designation : PE6P12OA72ORS7020 EP type number : 0 412 626 828

Governor

Governer design. : RQV200...1000PA539

: -8

Governer no.

: 0 421 813 635

Cust. part No. : 1670638

Customer-spec. information Customer : SCANIA

Motor

: DS 11 34

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Vibration

damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C

40

Tolerance °C

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

assembly

: 1 688 901 019

Opening pressure

: 208.5

Tolerance bar : +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter :

3.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 5.05

: +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance "NW

: +- 0.75

Barrel no.

: 1

BASIC SETTING

Rated speed rpm :

700

Rack travel in mm : 12.95

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes	: 209.0	guide sleeve travel mm : 10.00 Tolerance mm : +- 0.20
Tolerance cm3/1000 strokes	: +- 1.0	
Check tolerance		GUIDE SLEEVE POSITION
cm3/1000s.	: +- 4.0	Rated speed rpm : 1050
Spreed	+	Rack travel in mm : 16.50
Tolerance cm3/1000 strokes	: 6.0	Tolerance mm : +- 1.30
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
	+	Rated speed rpm : 700
Rated speed rpm	: 225	Aneroid pressure hPa : 900
	+	Del. quantity
Rack travel in mm		cm3/1000 strokes : 209.0
Tolerance mm	: + 0.10	Tolerance
Del. quantity cm3/1000 strokes	: 20.0	cm3/1000 strokes : +- 1.0 Check tolerance
Tolerance	. 20.0	cm3/1000s. : +- 4.0
cm3/1000 strokes	: + 2.0 +	Spreed
Spreed	+	Tolerance
Tolerance	. 70	cm3/1000 strokes : 6.0
cm3/1000 strokes Check tolerance	: 3.0	Check tolerance cm3/1000s. : 9.0
cm3/1000s.	: 6.0	CM3/ 10003
	+	
(B) SETTING OF INJ	ECTION PUMP	CONTROL LEVER
WITH GOVERNOR	†	control lever
<del></del>	I	position degree : 59.0
GUIDE SLEEVE TRAVE	EL	tolerance degree : +- 4.0
Rated speed rpm	: 225	control lever
guide sleeve	t	position degree : 117.0
travel mm	1.40	tolerance degree : +- 4.0
Tolerance mm	: + 0.20	RATED SPEED
Rated speed rpm	: 1045	The state of the s
• • •	ì	rack travel mm : 11.90
guide sleeve travel mm Tolerance mm	: 8.50 +	Rated speed rpm : 1045
Tolerance mm	: +- 0.10	Tolerance 1/min : +- 5
Rated speed rpm	: 350	rack travel mm : 4.00
guide sleeve	+	rack travel mm : 4.00 Rated speed rpm : 1150
travel mm Tolerance mm	: 2.70	Tolerance 1/min : +- 15
iolerance mm	: ← 0.30	rack travel mm : 0.50
Rated speed rpm	: 650	Tolerance mm : +- 0.50
	+	Rated speed rpm : 1250
travel mm	: 4.80	
Tolerance mm	: ← 0.30 +	
Rated speed rpm	: 1150	LOW IDLE
	+	

		1
control lever		<u> </u>
position degree	: 65.0	+
tolerance degree	: +- 4.0	FUEL DELIVERY CHARACTERICTICS
control lever		+ FUEL DELIVERY CHARACTERISTICS
position degree	: 9.0	Aneroid pressure
position degree tolerance degree	: +- 4.0	hPa : 900
Tantina.		Rated speed rpm : 1000
Testing:		+ Del. quantity + cm3/1000 strokes : 202.0
Rated speed rpm	: 225	† Tolerance
rack travel mm	: 4.70	+ cm3/1000 strokes : +- 4.0
Tolerance mm	: +- 0.10	+ Check tolerance + cm3/1000s. : +- 6.0
Rated speed rpm	: 100	+ Cm3/10003.
		Aneroid pressure
CRT mm min.	: > 6.10	+ hPa : - + Rated speed rpm : 500
Rated speed rpm	: 275	+ Rated speed rpm : 500 + Del. quantity
Matta opeca i piii		- cm3/1000 strokes : 153.0
		+ Tolerance
TORQUE CONTROL		+ cm3/1000 strokes : +- 2.0 + Check tolerance
Rated speed rpm	: 700	- cm3/1000s. : +- 4.0
rack travel mm	: 12.95	+
Tolerance mm	: +- 0.05	DDCALALIAV
Rated speed rpm	. 1000	+ BREAKAWAY
rack travel mm	: 12.95	+
Tolerance mm	: +- 0.05	Rack travel in mm: 11.90
		+ Rated speed rpm : 1045 + Tolerance 1/min : +- 5
ANEROID/ALTITUDE		+ Toterance This in
COMPENSATOR TEST		+
		STARTING FUEL DELIVERY
SETTING		+ OTANTING TOLE VEELVENT
		+ Rated speed rom : 100
Rated speed rpm	: 500 : 900	rack travel mm : 20.50 Tolerance mm : + 0.50
Pressure hPa rack travel mm	: 12.95	+ Tolerance mm : +- 0.50 + Del. quantity
Tolerance mm	: +- 0.05	+ cm3/1000 strokes : 300.0
14		+ Tolerance
MEASUREMENT		cm3/1000 strokes : +- 20.0 Check tolerance
Pressure hPa	: -	+ cm3/1000s. : + 24.0
Rated speed rpm	: 500	†
rack travel mm Tolerance mm	: 10.70 : +- 0.20	<u>†</u>
locerance inii	0.20	
Rated speed rpm	: 500	LOW IDLE
Pressure hPa	: 320	Rated speed rpm : 225
rack travel mm	: 11.25	+ Del. quantity
Tolerance mm	: <del>+-</del> 0.15	+ cm3/1000 strokes : 20.0
Pressure hPa	: 520	+ Tolerance + cm3/1000 strokes : ← 2.0
rack travel mm	: 12.35	+ Spreed
Tolerance mm	: +- 0.05	+

MO3

Tolerance : 3.0 Check tolerance cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions.

See microcard(s) W400/...

: 10.06.96 Edition : ISO 4113 Test oil

Combination No. : 9 400 087 428

Injection pump

Pump designation : PE6P120A720RS7020 EP type number : 0 412 626 828

Governor

Governer design. : RQV200...1000PA539

: -11

Governer no. : 0 421 813 813

Cust. part No. : 1121371

Customer-spec. information : SCANIA Customer : DS 11 34 Motor

TEST BENCH REQUIREMENTS

: 4.2 Inlet line

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C 40 Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 5.05 : + - 0.05Tolerance mm

Check

: +- 0.10 tolerance mm

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

: +- 0.30 Tolerance

Check

tolerance \*NW : + 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance \*NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm: 12.95

Tolerance mm : + 0.05

Del. quantity cm3/1000 strokes : 209.0	- Rated speed rpm : 1150 - guide sleeve - travel mm : 10.00
Tolerance cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.20
Check tolerance cm3/1000s. : +- 4.0	- GUIDE SLEEVE POSITION
Spreed	- Rated speed rpm : 1050 -
Tolerance cm3/1000 strokes : 6.0	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 225	Rated speed rpm : 700 Aneroid pressure hPa : 1500
Rack travel in mm: 4.70	Del. quantity
Tolerance mm : $+$ 0.10	- cm3/1000 strokes : 209.0 - Tolerance
Del. quantity cm3/1000 strokes : 20.0	cm3/1000 strokes : +- 1.0
Tolerance + 2.0 +	- Check tolerance - cm3/1000s. : +- 4.0
Check tolerance	- CM3/10003. : +- 4.0 - Spreed
cm3/1000s. : +- 5.0	- Tolerance
Spreed	cm3/1000 strokes : 6.0
Tolerance + cm3/1000 strokes : 3.0 +	· Check tolerance · cm3/1000s. : 9.0
Check tolerance	
cm3/1000s. : 6.0	
<u>†</u>	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	. CONTROL LEVER
WITH GOVERNOR	control lever
<u> </u>	position degree : 59.0
GUIDE SLEEVE TRAVEL	tolerance degree : +- 4.0
+	control lever
Rated speed rpm : 225	position degree : 117.0
guide sleeve travel mm : 1.40	tolerance degree : +- 4.0
Tolerance mm : +- 0.20	RATED SPEED
Rated speed rpm : 1045	rack travel mm : 11.90
guide sleeve +	Rated speed rpm : 1045
travel mm : 8.50 + Tolerance mm : + 0.10 +	Tolerance 1/min : +- 5
roterance min	rack travel mm : 4.00
Rated speed rpm : 350	Rated speed rpm : 1150
guide steeve	Tolerance 1/min : +- 15
travel mm : 2.70 + O.30	rack travel mm : 0.50
1	Tolerance mm : + 0.50
Rated speed rpm : 650 + guide sleeve +	Rated speed rpm : 1250
travel mm : 4.80 +	
Tolerance mm : + 0.30	LOU TOUR
+	LOW IDLE

		+ Tolerance mm : +- 0.05
control lever position degree tolerance degree		
control lever		FUEL DELIVERY CHARACTERISTICS
position degree tolerance degree		Aneroid pressure  hPa : 1500  Rated speed rpm : 1000
Testing:		Del. quantity  cm3/1000 strokes : 202.0
Rated speed rpm rack travel mm Tolerance mm	: 4.70	Tolerance + cm3/1000 strokes : +- 4.0 - Check tolerance
Rated speed rpm	:	cm3/1000s. : +- 6.0
CRT mm min.		Aneroid pressure hPa : -
Rated speed rpm		+ Rated speed rpm : 500 + Del. quantity
- Tares opeca (p.)		cm3/1000 strokes : 153.0 Tolerance
TORQUE CONTROL		cm3/1000 strokes : +- 2.0 Check tolerance
Rated speed rpm rack travel mm Tolerance mm		cm3/1000s. : +- 4.0
Rated speed rpm	: 1000	+ BREAKAWAY
rack travel mm Tolerance mm	: 12.95	+ Rack travel in mm : 11.90 + Rated speed rpm : 1045 + Tolerance 1/min : +- 5
ANEROID/ALTITUDE COMPENSATOR TEST		
SETTING		STARTING FUEL DELIVERY
Rated speed rpm Pressure hPa rack travel mm	: 500 : 1500 : 12.95	+ Rated speed rpm : 100 + rack travel mm : 20.50 + Tolerance mm : +- 0.50 + Del. quantity
Tolerance mm	: +- 0.05	cm3/1000 strokes : 300.0 + Tolerance
MEASUREMENT		- cm3/1000 strokes : +- 20.0 - Check tolerance
Pressure hPa Rated speed rpm rack travel mm Tolerance mm		+ cm3/1000s. : +- 24.0
Rated speed rpm	: 500	LOW IDLE
Pressure hPa rack travel mm Tolerance mm	: 320 : 11.25 : +- 0.15	Rated speed rpm : 225 Del. quantity cm3/1000 strokes : 20.0
Pressure hPa rack travel mm	: 520	Tolerance cm3/1000 strokes : +- 2.0

MO7

Check tolerance cm3/1000s. : +- 5.0 spreed Tolerance cm3/1000 strokes : 3.0 Check tolerance cm3/1000s. : 6.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 10.06.96 Edition Test oil : ISO 4113

Combination No. : 9 400 087 434

Injection pump

Pump designation : PE6P12OA32ORS3178 EP type number : 0 411 826 752

Governor

: RQV250...1025PA921 Governer design.

: -2

: 0 421 813 785 Governer no.

Cust. part No. : 470930-P06

Customer-spec. information

: VOLVO-TRUCK Customer : TD 122 FS Motor Power KW : 287.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper

(RoBo diaphragm) : 4.2

Test oil inlet

40 temp. °C Tolerance \*C

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

208.5 bar Tolerance bar : + 1.5 Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : x length mm : 1000

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

26.0 Test pressure bar : Tolerance bar : +- 1.0

3.65 Prestroke mm : +- 0.05 Tolerance mm Check

tolerance mm : +- 0.10

Rack travel in mm: 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30 Check

tolerance \*NW : + 0.50

Start of delivery mark

: +- 0.10 Tolerance

Check

tolerance \*NW : +- 0.75

: 1 Barrel no.

BASIC SETTING

700 Rated speed rpm :

Rack travel in mm : 14.05

Tolerance mm : +- 0.05

M09

		1
Del. quantity cm3/1000 strokes	: 259.0	Rated speed rpm : 1180 guide sleeve
Tolerance cm3/1000 strokes	: +- 1.0	+ travel mm : 10.10 + Tolerance mm : +- 0.20
Check tolerance cm3/1000s.	: +- 4.0	GUIDE SLEEVE POSITION
0		+ Rated speed rpm : 1130
Spreed Tolerance cm3/1000 strokes	: 5.0	Rack travel in mm : 16.50 Tolerance mm : +- 1.30
Check tolerance cm3/1000S.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 250	Rated speed rpm : 700 Aneroid pressure
Dank Assessed to me		hPa : 1200
Rack travel in m Tolerance mm Del. quantity		Del. quantity cm3/1000 strokes : 259.0 Tolerance
cm3/1000 strokes Tolerance	: 20.0	cm3/1000 strokes : + 1.0 Check tolerance
cm3/1000 strokes Check tolerance		cm3/1000s. : +- 4.0 + Spreed
Spreed	: <b>←</b> 5.0	Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes Check tolerance	: 5.0	Check tolerance cm3/1000s. : 9.0
cm3/1000s.	: 7.0	<del>T</del>
		+ CONTROL LEVER
(B) SETTING OF IN	NJECTION PUMP	+ CONTROL CEVER
WITH GOVERNOR		control lever
	•	position degree : 65.0
GUIDE SLEEVE TRAV		tolerance degree : +- 4.0
double oblice ( )	-	control lever
Rated speed rpm	: 250	position degree : 120.0
guide sleeve	. 1.20	tolerance degree : +- 4.0
travel mm Tolerance mm	: 1.20 : + 0.20	RATED SPEED
Rated speed rpm guide sleeve	: 1070	rack travel mm : 13.00 Rated speed rpm : 1060
travel mm Tolerance mm	: 8.10 : +- 0.10	Tolerance 1/min : +- 5
Rated speed rpm	: 450	rack travel mm : 4.00 Rated speed rpm : 1155
guide sleeve travel mm	: 3.90	Tolerance 1/min : +- 15
Tolerance mm	: +- 0.30	rack travel mm : 0.50 Tolerance mm : +- 0.50
Rated speed rpm guide sleeve	: 800	Rated speed rpm : 1250
travel mm Tolerance mm	: 6.50 : ← 0.20	

M10

## LOW IDLE control lever position degree : 63.0 tolerance degree : +- 4.0 control lever position degree : 10.0 tolerance degree : +- 4.0 Testing: Rated speed rpm : 250 4.95 rack travel mm Tolerance mm : +- 0.15 : 100 Rated speed rpm : > 6.40 CRT mm min. Rated speed rpm : 325 TORQUE CONTROL 700 Rated speed rpm : rack travel mm 14.05 : +- 0.05 Tolerance mm ANEROID/ALTITUDE COMPENSATOR TEST SETTING 500 Rated speed rpm : 1200 Pressure hPa : 14.05 rack travel mm : : +- 0.05 Tolerance mm **MEASUREMENT** Pressure hPa Pated speed rpm 500 Rated speed rpm 500

780

105

0.25

: +- 0.20

: +- 0.05

3.30

Rated speed rpm	: - : 700
Del. quantity cm3/1000 strokes	: 169.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance cm3/1000s.	: +- 4.0
(1137 10003.	. 1 4.0
BREAKAWAY	
Rack travel in mm Rated speed rpm	: 13.00 : 1060
Rated speed rpm Tolerance 1/min	: +- 5
STARTING FUEL DEL	 LVERY
Rated speed rpm	: 100
rack travel mm Tolerance mm	: 20.50 : +- 0.50
Del. quantity	
cm3/1000 strokes Tolerance	: 290.0
cm3/1000 strokes	: +- 20.0
Check tolerance cm3/1000s.	: +- 24.0
LOW IDLE	
Rated speed rpm Del. quantity	
cm3/1000 strokes Tolerance	: 20.0
งส3/1000 strokes Check tolerance	: +- 2.5
cm3/1000s. Spreed	: +- 5.0
Tolerance cm3/1000 strokes	: 5.0
Check tolerance cm3/1000s.	: 7.0
Food of Acade and the	::
End of test specif	itation Sheet

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa

Pressure hPa

rack travel mm

Tolerance mm

Pressure hPa

rack travel mm

Tolerance mm

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.96 Test oil : ISO 4113

Combination No. : 0 400 876 426

Injection pump

Pump designation : PES6A100D410RS2762

: -1

EP type number : 0 410 806 008

Governor

Governer design. : RSV400...1050A2C2283

Governer no. : 0 420 232 607

Cust. part No. : RE62527

Customer-spec. information
Customer : DEERE
Motor : 6076AT033
Power KW : 131.5

TEST BENCH REQUIREMENTS

Inlet line : 2.4

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 457 413 010

Inlet press. bar : 1.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : +- 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : + 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.50

Check

tolerance °NW : +- 0.75

Start of delivery mark

\*NW after s.o.d. : 13.50 Tolerance : + 0.50

Check

tolerance \*NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 10.80 Tolerance mm : + 0.05

\_\_\_\_\_

Del. quantity	Check tolerance
cm3/1000 strokes : 101.0	cm3/1000s. : +- 3.0 Spreed
Tolerance cm3/1000 strokes : +- 1.0	Tolerance cm3/1000 strokes : 4.0
Check tolerance cm3/1000s. : + 3.0	Check tolerance cm3/1000s. : 6.5
Spreed + Tolerance + cm3/1000 strokes : 4.0 +	CONTROL LEVER
Check tolerance	position degree : 93.0
cm3/1000s. : 6.5	tolerance degree : +- 4.0
Rated speed rpm : 450	RATED SPEED
Park around in my 5 (0)	rack travel mm : 9.80
Rack travel in mm : 5.60 + Tolerance mm : + 0.10 +	Rated speed rpm : 1095 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 20.0	rack travel mm : 4.00
Tolerance	Rated speed rpm : 1150
cm3/1000 strokes : + 2.0	Tolerance 1/min : +- 5
Check tolerance + 4.0 +	rack travel mm : 0.85
Spreed	Tolerance mm : + 0.55
Tolerance +	Rated speed rpm : 1300
cm3/1000 strokes : 6.0 + Check tolerance	rack travel mm : 4.00
cm3/1000s. : 8.0	Rated speed rpm : 1150
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	LOW IDLE
‡	
	control lever
GUIDE SLEEVE POSITION	position degree : 72.0 tolerance degree : + 4.0
Rated speed rpm : 800	_
Rack travel in mm: 0.50	Setting point w/out bumper spring
Tolerance mm : + 0.20	Rated speed rpm : 450
governor spring	rack travel mm : 5.10
pre-tension +	Testing:
click setting x : 5.00	Rated speed rpm : 450
	rack travel mm : 5.60
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : +- 0.10
Rated speed rpm : 1050	Rated speed rpm : 100
Aneroid pressure	CRT mm min. : > 19.00
Del. quantity	
cm3/1000 strokes : 101.0	TORQUE CONTROL
cm3/1000 strokes : + 1.0	TOTAGE CONTROL

Rated speed rpm : 1050 rack travel mm : 10.80 Tolerance mm : +-0.05

Rated speed rpm : 700 rack travel mm : 13.00 Tolerance mm : + 0.10

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure

hPa : Rated speed rpm : 700
Del. quantity
cm3/1000 strokes : 134.5
Tolerance

cm3/1000 strokes : + 2.0

Check tolerance cm3/1000s. : +- 4.0

#### **BREAKAWAY**

Rack travel in mm : 9.80
Rated speed rpm : 1095
Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 105.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  10.0

Check tolerance

cm3/1000s. : +- 15.0

#### LOW IDLE

Rated speed rpm : 450

Del. quantity

cm3/1000 strokes : 20.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  2.0

Check tolerance

cm3/1000s. : +- 4.0 Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. : 8.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 02.01.96 Test oil : ISO 4113

Combination No. : 0 402 046 859

Injection pump

Pump designation : PES6P110A320LS3330

EP type number : 0 412 016 745

Governor

Governer design. : RQV350...1150PA1129K

Governer no.

: 0 421 815 385

Cust. part No. : 1823109091

Customer-spec. information Customer : NAVISTAR : DT-466 Motor

Power KW

: 141.5

### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.8
Tolerance bar : + 0.1

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

x inside diameter : 3.0 x length mm :

600

#### REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

#### BEGINNING OF DELIVERY

Test pressure bar : 17.0 Tolerance bar : + 1.0

Prestroke mm 3.00 : +- 0.05 Tolerance mm

Check

tolerance mm : +- 0.10

: 1-5-3-6-2-Firing order

Phasing : 0-60-120-180-240

: -300

Tolerance : **←** 0.50

Check

tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 12.35 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 130.5

Tolerance

cm3/1000 strokes : + 1.0

Check tolerance

cm3/1000s.

: **←** 3.0

Spreed

Tolerance

cm3/1000 strokes : 8.0

Check tolerance

cm3/1000s.

: 12.0

M15

	+	Tolerance mm	
Rated speed rpm	: 325 +	Rated speed rpm	: 1500
	+		
	+		
Rack travel in mm	n: 6.85 +		
Tolerance mm	: +- 0.10 +	LOW IDLE	
Del. quantity	+		
cm3/1000 strokes	: 26.0		
Tolerance	1	control lever	
cm3/1000 strokes	: +- 2.0	position degree	: 78.0
Check tolerance	1	tolerance degree	
cm3/1000s.	: +- 4.5	3	
Spreed	1	Testing:	
Tolerance	1		
cm3/1000 strokes	: 4.0	Rated speed rpm	• 325
Check tolerance	1.0	rack travel mm	
cm3/1000s.	: 6.5	Tolerance mm	· + 0.10
CIII 37 10000:	. 0.3	TOTAL GITTE TIKE	
	$\mathbf{I}$	Rated speed rpm	: 275
(B) SETTING OF INJECTION PUMP			
WITH GOVERNOR	ACCUTON FORM	CRT mm min.	• > 7 30
MILLI GOVEKNOK	I	CK! mm mills.	. > 7.50
	Ť	Rated speed rpm	• /35
		Nated speed ipili	• +32
FULL LOAD DELIVERY AT FULL LOAD STOP			
TOCK COAD DEELVEN	T AT TOLL LOAD STOT	TORQUE CONTROL	
Rated speed rpm	: 750	TORGOL CONTROL	
Aneroid pressure		Rated speed rpm	. 750
hPa	: 1200 I	rack travel mm	
	1200	Tolerance mm	
Del. quantity	170 5	roterance mm	: +- 0.05
cm3/1000 strokes	: 130.5	Data dama adama	. 1150
Tolerance	10	Rated speed rpm	
cm3/1000 strokes	: + 1.0	rack travel mm	: 13.10
Check tolerance		Tolerance mm	: +- 0.10
cm3/1000s.	: +- 3.0 +		500
Spreed	†	Rated speed rpm	
Tolerance	+	rack travel mm	
cm3/1000 strokes	: 8.0 +	Tolerance mm	: ← 0.20
Check tolerance	+		
cm3/1000S.	: 12.0 +		
	+	ANEROID/ALTITUDE	
	+	COMPENSATOR TEST	
	+		
CONTROL LEVER	+		
	+	SETTING	
control lever	+		
position degree	: 119.0 +	Rated speed rpm	: 1150
tolerance degree	: +- 6.0 +	Pressure hPa	: 1200
	+	rack travel mm	: 13.10
RATED SPEED	+	Tolerance mm	: +- 0.10
	+		
rack travel mm	: 12.10	MEASUREMENT	
Rated speed rpm	: 1200 +		
Tolerance 1/min	: +- 15 +	Pressure hPa	: -
	+	Rated speed rpm	: 1150
rack travel mm		rack travel mm Tolerance mm	: 10.90
Rated speed rpm		Tolerance mm	: +- 0.20
Tolerance 1/min			
	+	Rated speed rpm	: 1150
rack travel mm	: 0.50	•	
	•		
4 .			

M16

Pressure hPa rack travel mm Tolerance mm Pressure hPa rack travel mm Tolerance mm	: 350 : 12.10 : + 0.20 : 180 : 11.30 : + 0.05
START CUT-OUT	
Rated speed rpm Rated speed rpm	: > 100 : < 280
Check speed 1/min Check	; > 80
speed 1/min	: < 290
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure hPa Rated speed rpm	: 1200 : 1150
Del. quantity cm3/1000 strokes Tolerance	: 145.5
cm3/1000 strokes Check tolerance	: +- 2.0
cm3/1000s. Spreed	: +- 4.0
Tolerance cm3/1000 strokes	: 8.0
Check tolerance cm3/1000s.	: 12.0
Aneroid pressure hPa	: -
Rated speed rpm Del. quantity	: 1150
cm3/1000 strokes Tolerance	
cm3/1000 strokes Check tolerance cm3/1000s.	: +- 1.0 : +- 4.0
Rack travel in mm	o: 12.10
Rated speed rpm Tolerance 1/min	
STARTING FUEL DEL	IVERY
Rated speed rpm	: 100

rack travel mm Tolerance mm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: 20.50 : +- 1.00 : 140.0 : +- 20.0 : +- 25.0
LOW IDLE	
Rated speed rpm	: 325
Del. quantity cm3/1000 strokes	: 26.0
Tolerance cm3/1000 strokes	: +- 2.0
Check tolerance cm3/1000s.	: +- 4.5

End of test specification sheet

cm3/1000 strokes : 4.0 Check tolerance cm3/1000s. : 6.5

Spreed Tolerance

M17

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 21.06.96 : ISO 4113

Combination No. : 0 402 196 705

Injection pump

Pump designation : PES6P120A720RS3347

EP type number : 0 412 026 777

Governor

Governer design. : RE30

Governer no. : 0 421 890 029

Cust. part No. : RE 63514

Customer-spec. information

Customer : DEERE Motor : 6076 HRW35

Power KW

: 181.0

TEST BENCH REQUIREMENTS

Inlet line

: 4.2

Test oil inlet

temp. °C

Tolerance °C

· +- 2.0

Overflow valve

: 2 417 413 077

Inlet press. bar :

1.5

Tolerance bar

Test nozzle holde

assembly

: 1 688 901 101

Opening pressure

bar

: 208.5

Tolerance bar

: <del>+-</del> 1.5

Test Lines : 1 680 750 015

Outside diameter : 6.0

M18

x inside diameter : 3.0

x length mm :

600

**REMARKS** 

Pump-specific values in Section (B) must be observed!

(A) INJECTION PUMP SETTINGS No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 3.60 : +- 0.05 Tolerance mm

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

\*NW after s.o.d. : 10.50 Tolerance : +- 0.50

Check

tolerance \*NW : +- 0.75

Barrel no.

: 1

(8) POSITIONER TESTING Warm-up time: 3 minutes at

n=600 min-1, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point Check (P, R and H pump) Uact V 3.100 CRT mm 13.00 : +/- 0.05 Tolerance mm Check : +/- 0.10 tolerance mm Check value (P, R and H pump) Uact V : 1.700 CRT mm 6.15 Tolerance mm : +/- 0.25 Uact V Check : +/- 0.30tolerance mm Setting point (amuq M) Spreed 3.100 Uact V CRT mm 12.50 Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (M pump) Uact V Uact V 1.700 5.50 CRT mm : +/- 0.25 Tolerance mm Check tolerance mm : +/- 0.30Stop position Spreed Uact V : Value with deenergised adjusting magnet and control rod in stop position. CRT mm 0.75 : +/- 0.25 Tolerance mm Check : +/- 0.35 tolerance mm Uact V Tolerance Volt Check tolerance ENGINE-SPEED SENSOR Volt (All P and R pumps not Del. quantity

Test with control rod in stop position Engine speed min-1: 60 Amplitude V 1.4 Tolerance V : +/- 0.6 tolerance V: +/- 1.20 Engine speed min-1: 600 Difference Amplitude to Amplitude V : max.1.4 (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 Rated speed rpm : 1100 2.710 Del. quantity cm3/1000 strokes : 141.0 Tolerance cm3/1000 strokes : +- 1.0Check tolerance cm3/1000s.: +--4.0 Tolerance cm3/1000 strokes : 5.0 Check tolerance cm3/1000s. 9.0 FUEL DELIVERY CHARACTERISTICS 700 Rated speed rpm 2.710 Del. quantity cm3/1000 strokes : 142.0 Tolerance cm3/1000 strokes : +- 3.0Check tolerance cm3/1000s.: +--6.0 Tolerance cm3/1000 strokes : 0.8 Check tolerance cm3/1000s. 12.0 TEST POINT L1 425 Rated speed rpm : 1.400 : +- 0.060

: +- 0.960

cm3/1000 strokes : 19.0

H and M pumps)

Tolerance

cm3/1000 strokes : +- 3.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s. 10.0

#### STARTING FUEL DELIVERY

Rated speed rpm 100 Uact V 4.600

Del. quantity cm3/1000 strokes :

100.0 Tolerance cm3/1000 strokes : +- 10.0

Check tolerance cm3/1000s. : + 13.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil : 21.06.96 : ISO 4113

Combination No. : 0 402 796 823

Injection pump

Pump designation : PES6P120A720RS7356

EP type number : 0 412 726 919

Governor

Governer design. : RE<sup>-</sup>)

Governer no.

: G 1 890 017

Cust. part No. : RE 67884

Customer-spec. information

Customer : DEERE

: 6081 HRW 05 Motor Power KW : 198.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

40

Tolerance °C

2.0

Overflow valve : 2 417 413 077

Inlet press. bar :

2.0

Tolerance bar : +-

0.1

Test nozzle holde

assembly

: 1 688 901 103

Opening pressure

bar

208.5

Tolerance bar

: + 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

M21

x inside diameter : 3.0

x length mm :

**REMARKS** 

Pump-specific values

in Section (B)

must be observed!

(A) INJECTION PUMP SETTINGS

No basic setting.

Setting of constant delivery

under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 17.0

Tolerance bar : + 1.0

Prestroke mm

Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50

: +- 0.50 Tolerance mm

: 1-5-3-6-2-Firing order

: 0-60-120-180-240 Phasing

: -300

Start of delivery blocking

\*NW after s.o.d. : 9.25

: +- 0.50 Tolerance

Check

tolerance °NW : **←** 0.75

Barrel no.

: 1

Beginning of delivery differende

and maximum rack

travel

15.00

Difference ° CS : 2.50

(B) POSITIONER TESTING Warm-up time: 3 minutes at n=600 min-1, Uact = 2.5 VTESTING & SETTING RACK TRAVEL SENSOR POSITION Engine speed min-1: Setting point (P, R and H pump) Uact V 3.100 CRT mm 13.00 Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (P, R and H pump) 1.700 Uact V CRT mm 6.15 : +/- 0.25 Tolerance mm Check : +/- 0.30tolerance mm Setting point (M pump) 3,100 Uact V 12.50 CRT mm Tolerance mm : +/- 0.05 Check : +/- 0.10 tolerance mm Check value (amua M) 1.700 Uact V CRT mm 5.50 : +/- 0.25 Tolerance mm Check tolerance mm : +/- 0.30Stop position Uact V : Value with deenergised adjusting magnet and control rod in stop position.

0.75

: +/- 0.25

: +/- 0.35

ENGINE-SPEED SENSOR (All P and R pumps not H and M pumps) Test with control rod in stop position Engine speed min-1: Amplitude V 1.4 Tolerance V : +/- 0.6 Check : +/- 1.20 tolerance V Engine speed min-1: 600 Difference Amplitude to : max.1.4 Amplitude V (C) INJECTION PUMP WITH POSITIONER TEST POINT V1 1050 Rated speed rpm 3.030 Uact V Del. quantity cm3/1000 strokes : 213.0 Tolerance cm3/1000 strokes : +-1.0 Check tolerance cm3/1000s. 4.0 Spreed Tolerance 5.0 cm3/1000 strokes : Check tolerance 9.0 cm3/1000s. FUEL DELIVERY CHARACTERISTICS 700 Rated speed rpm 3.120 Uact V Del. quantity cm3/1000 strokes : 237.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000S. 6.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance 12.0 cm3/1000s. TEST POINT L1

450

1.740

Rated speed rpm

Uact V

CRT mm

Check

Tolerance mm

tolerance mm

Tolerance Volt Check tolerance	: +-	0.060
Volt	: +-	0.060
Del. quantity		
cm3/1000 strokes	:	26.0
Tolerance		
cm3/1000 strokes	: +-	3.0
Spreed		
Tolerance		
cm3/1000 strokes	:	6.0
Check tolerance		
cm3/1000s.	:	10.0
	•	

# STARTING FUEL DELIVERY

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.96 Test oil : ISO 4113

Combination No. : 0 402 046 864

Injection pump

Pump designation : PES6P120A320RS3337

: -1

EP type number : 0 412 026 772

Governor

Governer design. : RQV300...1250PA1149

: -1K

Governer no. : 0 421 815 421

Cust. part No. : CCEP 5142A 66-219

Customer-spec. information

Customer : RENAULT V.I.

Motor

: MIDR 06-02-26 W4

Power KW

: 155.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

temp. °C

Tolerance °C

: + 2.0

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

har

: 208.5

Tolerance bar : +- 1.5

Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : +- 1.0

Prestroke mm : 4.15 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm: 13.00

Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance °NW : +- 0.50

Start of delivery mark

\*NW after s.o.d. : -0.35 Tolerance : +-0.50Tolerance

Check tolerance °NW

: +- 0.75

: 1

Barrel no.

Beginning of delivery differende

betw. rack trav.

21.00

and maximum rack

travel

: 13.00

Difference \* CS :

2.00

BASIC SETTING

Rated speed rpm	: 1250	Tolerance mm : +- 0.25 Rated speed rpm : 510
Rack travel in mm Tolerance mm		guide sleeve travel mm : 3.59 Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes	: 199.0	Rated speed rpm : 1600 guide sleeve travel mm : 13.50
Tolerance cm3/1000 strokes	: + 1.0	Tolerance mm : +- 0.50
Check tolerance cm3/1000s.	: +- 4.0	GUIDE SLEEVE POSITION  Rated speed rpm : 1415
Spreed Tolerance cm3/1000 strokes	: 5.0	Rack travel in mm : 12.15 Tolerance mm : +- 2.03
Check tolerance cm3/1000s.	: 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 300	Rated speed rpm : 1250 Aneroid pressure hPa : 1000
Rack travel in mm : Tolerance mm Del. quantity	: -8.30 : +- 0.10	Del. quantity cm3/1000 strokes : 199.0 Tolerance
cm3/1000 strokes Tolerance cm3/1000 strokes	<del>Ì</del>	cm3/1000 strokes : +- 1.0 Check tolerance cm3/1000s. : +- 4.0
Check tolerance	: +- 5.0	Spreed Tolerance cm3/1000 strokes : 5.0
Tolerance cm3/1000 strokes : Check tolerance	<del>}</del>	Check tolerance cm3/1000s. : 9.0
cm3/1000s. :	12.0	CONTROL LEVER
(B) SETTING OF INJE	ECTION PUMP	control lever position degree : 296.0 tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	+	RATED SPEED
guide sleeve travel mm :	1.31 + 0.20	rack travel mm : -1.00 Rated speed rpm : 1312 Tolerance 1/min : +- 15
guide sleeve travel mm :	9.98 + 0.15	rack travel mm : -9.10 Rated speed rpm : 1440 Tolerance 1/min : +- 5
	876	rack travel mm : -12.60 Tolerance mm : +- 0.50 Rated speed rpm : 1550

		+	Tolerance mm	: +- 0.05
LOW IDLE		‡	START CUT-OUT	
control lever position degree tolerance degree		+++++++++++++++++++++++++++++++++++++++	Rated speed rpm Rated speed rpm	
Testing:		‡	Check speed 1/min Check	: > 155
Rated speed rpm rack travel mm Tolerance mm	: -8.30	+	speed 1/min	: < 260
Rated speed rpm	: 200	‡	FUEL DELIVERY CHA	ARACTERISTICS
CRT mm min.	: < -7.50	+	Aneroid pressure hPa Rated speed rpm	: 1000 : 850
Rated speed rpm	: 400	‡	Del. quantity cm3/1000 strokes Tolerance	
TORQUE CONTROL	1250	†	cm3/1000 strokes Check tolerance	
Rated speed rpm		‡	cm3/1000s.	: +- 6.0
Rated speed rpm rack travel mm Tolerance mm	: 850 : −1.85 : ← 0.15	† + +	Aneroid pressure hPa Rated speed rpm Del. quantity	: – : 1000
Rated speed rpm rack travel mm Tolerance mm	: 350 : -1.60 : + 0.30	+ + + +	cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	
ANEROID/ALTITUDE COMPENSATOR TEST		†	BREAKAWAY	
SETTING  Rated speed rpm Pressure hPa rack travel mm	: 1000	+++++++++++++++++++++++++++++++++++++++	Rack travel in mm Rated speed rpm Tolerance 1/min	: 1312
MEASUREMENT		‡	STARTING FUEL DEL	.IVERY
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: -000 : -3.40 : + 0.20	†	Rated speed rpm Del. quantity cm3/1000 strokes Tolerance	: 100 : 102.0
Rated speed rpm Pressure hPa rack travel mm	: 1000 : 240 : -2.55	‡	cm3/1000 strokes Check tolerance cm3/1000s.	: +- 15.0 : +- 19.0
Tolerance mm  Pressure hPa rack travel mm	: + 0.10 : 320 : -1.80	‡	LOW IDLE	<del></del>

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300 Rated speed rpm : Del. quantity cm3/1000 strokes : 25.0 Tolerance cm3/1000 strokes : +-2.0 Check tolerance cm3/1000s. 5.0 Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. 12.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24,06,96 : ISO 4113 Test oil

Combination No. : 0 402 046 872

Injection pump

Pump designation : PES6P120A320RS3337 EP type number : 0 412 026 770

Governor

Governer design. : RQV300...1250PA1246K

Governer no. : 0 421 815 480

Cust. part No. : CCEP 5155A 66-217

Customer-spec. information

Customer : RENAULT V.I. : MIDR 06-02-26 U4 Motor

Power KW : 111.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet

: 40 : + 2.0 temp. °C Tolerance °C

Overflow valve : 2 417 413 084

Inlet press. bar : 2.5 Tolerance bar : + 0.1

Overflow quantity

min. l/h : 135
Tolerance l/h : + 10.0

Test nozzle holde

assembly : 1 688 901 101

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : + 1.0

Prestroke mm : 4.10 Tolerance mm : + 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm: 11.00

Tolerance mm : +- 0.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

: + 0.30 Tolerance

Check

tolerance \*NW : +- 0.50

Start of delivery mark

\*NW after s.o.d. : 0.08

: +- 0.50 Tolerance

Check

tolerance °NW : +- 0.75

: 1 Barrel no.

Beginning of delivery differende

betw. rack trav.

: 21.00

and maximum rack

11.00 travel

Difference ° CS : 2.00

+	- Rated speed rpm : 900
DACKA OFFICE	- guide sleeve - travel mm : 6.50
BASIC SETTING	- travel mm : 6.50 - Tolerance mm : +- 0.25
Rated speed rpm : 1250	· Toterarice min . +- U.25
Nated Speed (pin) . (250	- Rated speed rpm : 530
	guide sleeve
Rack travel in mm: 10.60	travel mm : 3.77
Tolerance mm : $+-$ 0.05	Tolerance mm : +- 0.25
	•
Del. quantity	Rated speed rpm : 1580
cm3/1000 strokes : 138.0	guide sleeve
Tolerance	- travel mm : 13.50 - Tolerance mm : +- 0.50
cm3/1000 strokes : +- 1.0	Toterance min : += 0.50
CIID/ 1000 Strokes	
Check tolerance	GUIDE SLEEVE POSITION
cm3/1000s. : + 4.0	•
	Rated speed rpm : 1400
Spreed	•
Tolerance	Rack travel in mm : 10.50
cm3/1000 strokes : 5.0	Tolerance mm : +- 1.50
Charle dal annua	•
Check tolerance cm3/1000s. : 9.0	FULL LOAD DELIVERY AT FULL LOAD STOP
cm3/1000s. : 9.0	FOLL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm : 300	Rated speed rp : 1250
Auteu opeeu (piii )	Aneroid pressure
+	hPa : -
Rack travel in mm: -5.60	Del. quantity
Tolerance mm : $\leftarrow$ 0.10	cm3/1000 strokes : 138.0
Del. quantity	Tolerance
cm3/1000 strokes : 30.0 +	cm3/1000 strokes : +- 1.0
Tolerance +	Check tolerance
cm3/1000 strokes : +- 2.0 +	cm3/1000s. : +- 4.0
Check tolerance cm3/1000s. : + 5.0	Spileed Tolerarice
Spreed	cm3/1000 strokes : 5.0
Tolerance	Check tolerance
cm3/1000 strokes : 8.0	cm3/1000S. : 9.0
Check tolerance	
cm3/1000s. : 12.0 +	
†	
(D) 000000000000000000000000000000000000	CONTROL LEVER
(B) SETTING OF INJECTION PUMP	control lever
WITH GOVERNOR +	position degree : 296.0
	tolerance degree : +- 4.0
GUIDE SLEEVE TRAVEL	10 to taring a a grad to 110
+	RATED SPEED
Rated speed rpm : 300	
guide sleeve +	rack travel mm : -1.00
travel mm : 1.31	Rated speed rpm : 1315
Tolerance mm : +- 0.20	Tolerance 1/min : +- 15
Rated speed rpm : 1333 +	rack travel mm : -6.50
Rated speed rpm : 1333 + guide sleeve +	Rated speed rpm : 1410
travel mm : 10.40	Tolerance 1/min : +- 5
Tolerance mm : +- 0.15	
+	rack travel mm : -10.00

Tolerance mm : +- 0.50 Check tolerance cm3/1000s. : +- 6.0 Rated speed rpm : 1550 BREAKAWAY LOW IDLE Rack travel in mm : -1.00 Rated speed rpm : 1315 control lever Tolerance 1/min : +- 15 position degree : 242.0 tolerance degree : +- 4.0 Testing: STARTING FUEL DELIVERY Rated speed rpm : 300 rack travel mm : -5.60 300 100 Rated speed rpm : : +- 0.10 Tolerance mm Del. quantity cm3/1000 strokes : 108.0 200 Tolerance Rated speed rpm : cm3/1000 strokes : +- 15.0CRT mm min. : < -4.60Check tolerance : + 19.0 cm3/1000s. Rated speed rpm : 380 TORQUE CONTROL LOW IDLE Rated speed rpm : 1250 Rated speed rpm : 300 750 Rated speed rpm Del. quantity cm3/1000 strokes : rack travel mm : -1.6030.0 Tolerance mm : +- 0.10 Tolerance cm3/1000 strokes : +-2.0 Rated speed rpm : 350 rack travel mm : -2.40 Check tolerance cm3/1000s. : +-5.0 : + 0.15 Tolerance mm Spreed Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s.12.0 START CUT-OUT 130 Rated speed rpm : > Rated speed rpm : < 225 Check speed 1/min :> 110 End of test specification sheet Check : < 245 speed 1/min FUEL DELIVERY CHARACTERISTICS Aneroid pressure hPa 750 Rated speed rpm : Del. quantity cm3/1000 strokes : 100.0 Tolerance

cm3/1000 strokes : +- 3.0

#### Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 21.06.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 076 806

Injection pump

Pump designation : PES6P120A720LS3298 EP type number : 0 412 026 754

Governor

Governer design. : RSV350...900P0A553

: -1

Governer no. : 0 421 833 563

Cust. part No. :

Customer-spec. information

: FINCANTIERI Customer Motor : L 1306 T2 : 220.0 Power KW

#### TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C Tolerance °C

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5 Tolerance bar : +- 0.1

Overflow quantity

min. l/h : 110 Tolerance l/h : +- 20.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

208.5 Tolerance bar : +- 1.5 Test Lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : x length mm : 600

**REMARKS** 

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

### BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 3.55
Tolerance mm : + 0.05 Tolerance mm

Check

tolerance mm : + 0.10

Rack travel in mm: 10.50 Tolerance mm :  $\leftarrow$  1.50

Firing order : 1-5-3-6-2-

: 0-60-120-180-240 : -300 Phasing

: +- 0.30 Tolerance

Check

tolerance °NW : +- 0.50

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 15.25 Tolerance mm :  $\leftarrow$  0.05

Del. quantity

cm3/1000 strokes : 276.0

Tolerance

cm3/1000 strokes : +- 1.0

Check tolerance + 4.0 + 4.0	Check tolerance cm3/1000s. : 9.0
Spreed +	
cm3/1000 strokes : 6.0	CONTROL LEVER
Check tolerance cm3/1000s. : 9.0	<pre>control lever position degree : 89.0 tolerance degree : +- 4.0</pre>
Rated speed rpm : 350	RATED SPEED
Rack travel in mm: 7.50	rack travel mm : 14.20
Tolerance mm : +- 0.10	Rated speed rpm : 945
Del. quantity	Tolerance 1/min : +- 5
cm3/1000 strokes : 18.0 +	
Tolerance +- 3.0 +-	rack travel mm : 4.00 Rated speed rpm : 1140
Check tolerance	Rated speed rpm : 1140 Tolerance 1/min : +- 15
cm3/1000s. : + 6.0	Total and Thinni
Spreed	rack travel mm : 0.85
Tolerance	Tolerance mm : +- 0.55
cm3/1000 strokes : 10.0 + Check tolerance	Rated speed rpm : 1350
cm3/1000s. : 14.0	rack travel mm : 4.00 Rated speed rpm : 1205
(B) SETTING OF INJECTION PUMP +	
+	LOW IDLE
GUIDE SLEEVE POSITION	control lever
GUIDE SLEEVE POSITION  Rated speed rpm : 800	
Rated speed rpm : 800  Rack travel in mm : 0.50	control lever position degree : 75.0
Rated speed rpm : 800 + Rack travel in mm : 0.50 +	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350
Rated speed rpm : 800  Rack travel in mm : 0.50	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : + 0.10
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 715
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900 Aneroid pressure hPa : 1300 Del. quantity	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : + 0.10  rack travel mm : 2.00
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 276.0	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 715
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 276.0 Tolerance	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : + 0.10  rack travel mm : 2.00 Rated speed rpm : 715 Tolerance 1/min : + 50
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 276.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : 40.10  rack travel mm : 2.00 Rated speed rpm : 715 Tolerance 1/min : + 50
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 276.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : 40.10  rack travel mm : 2.00 Rated speed rpm : 715 Tolerance 1/min : + 50  TORQUE CONTROL  Rated speed rpm : 900
Rack travel in mm: 0.50 Tolerance mm: + 0.20  governor spring pre-tension click setting x: 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm: 900 Aneroid pressure hPa: 1300 Del. quantity cm3/1000 strokes: 276.0 Tolerance cm3/1000 strokes: + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : 40.10  rack travel mm : 2.00 Rated speed rpm : 715 Tolerance 1/min : + 50  TORQUE CONTROL  Rated speed rpm : 900 rack travel mm : 900 rack travel mm : 915.25
Rated speed rpm : 800  Rack travel in mm : 0.50 Tolerance mm : + 0.20  governor spring pre-tension click setting x : 4.75  FULL LOAD DELIVERY AT FULL LOAD STOP  Rated speed rpm : 900 Aneroid pressure hPa : 1300 Del. quantity cm3/1000 strokes : 276.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000S. : + 4.0	control lever position degree : 75.0 tolerance degree : + 4.0  Setting point w/out bumper spring  Rated speed rpm : 350 rack travel mm : 7.00  Testing:  Rated speed rpm : 350 rack travel mm : 7.50 Tolerance mm : 40.10  rack travel mm : 2.00 Rated speed rpm : 715 Tolerance 1/min : + 50  TORQUE CONTROL  Rated speed rpm : 900

rack travel mm Tolerance mm	: 15.30 : +- 0.10
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 600 : 1300 : 15.25 : + 0.10
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 600 : 11.10 : + 0.20
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 900 : 14.65
Total affection	: +- 0.05
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance	RACTERISTICS : 1300 : 600
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Spreed Tolerance cm3/1000s. Check tolerance cm3/1000s. Aneroid pressure	: 1300 : 600 : 282.0 : + 3.0 : + 6.0 : 10.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: 1300 : 600 : 282.0 : + 3.0 : + 6.0 : 10.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Appressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	RACTERISTICS  : 1300 : 600 : 282.0 : + 3.0 : + 6.0 : 10.0 : 14.0 : -
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000s. Spreed Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm Del. quantity	: 1300 : 600 : 282.0 : + 3.0 : + 6.0 : 10.0 : 14.0

Rack travel in mm : 14.20 Rated speed rpm : 945 Tolerance 1/min : +- 5

#### STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 20.25 Tolerance mm : + 0.75 Del. quantity cm3/1000 strokes : 410.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0

#### LOW IDLE

Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 18.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 Spreed Tolerance cm3/1000 strokes : 10.0 Check tolerance : 14.0 cm3/1000s.

End of test specification sheet

**BREAKAWAY** 

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 20.12.95 Test oil : ISO 4113

Combination No. : 0 402 646 606

Injection pump

Pump designation : PE6P12OA72ORS7188

: -100

EP type number : 0 412 626 925

Governor

Governer design. : RQV200...950PA725

: -10

Governer no. : 0 421 814 002

Cust. part No. : 1338073

Customer-spec. information
Customer : SCANIA
Motor : DSC 11 32

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Vibration damper

(RoBo diaphragm) : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5
Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 104

Opening pressure

bar : 251.5 Tolerance bar : + 1.5 Test Lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 4.45
Tolerance mm : +- 0.05

Check

tolerance mm : +- 0.10

Rack travel in mm : 10.50 Tolerance mm : +- 1.50

Firing order : 1-5-3-6-2-

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.55 Tolerance mm : +- 0.05

ioterance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 214.0

\_\_\_\_\_

N06

Tolerance cm3/1000 strokes : +- 1.0	
Check tolerance cm3/1000s. : +- 4.0	- CONTROL LEVER
Spreed Tolerance cm3/1000 strokes : 8.0	<ul> <li>control lever</li> <li>position degree : 59.0</li> <li>tolerance degree : +- 4.0</li> <li>control lever</li> </ul>
Check tolerance cm3/1000s. : 12.0	position degree : 114.0 tolerance degree : +- 4.0
Rated speed rpm : 250	- RATED SPEED
Rack travel in mm: 4.70 Tolerance mm: + 0.10	rack travel mm : 11.50 Rated speed rpm : 995 Tolerance 1/min : +- 5
Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +- 3.0	rack travel mm : 4.00 Rated speed rpm : 1105 Tolerance 1/min : +- 15
Check tolerance cm3/1000s. : + 6.0 Spreed Tolerance cm3/1000 strokes : 4.0	rack travel mm : 0.50 Tolerance mm : +- 0.50 Rated speed rpm : 1250
Check tolerance cm3/1000s. : 8.0	
#	LOW IDLE
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	control lever position degree : 64.0 tolerance degree : +- 4.0
GUIDE SLEEVE POSITION  Rated speed rpm : 1140	control lever position degree : 10.0 tolerance degree : +- 4.0
Rack travel in mm: 9.50	Testing:
FULL LOAD DELIVERY AT FULL LOAD STOP	Rated speed rpm : 250 rack travel mm : 4.70 Tolerance mm : +- 0.10
Rated speed rpm : 700 + Aneroid pressure	Rated speed rpm : 150
hPa : - + Del. quantity +	
Deta dualitity	CRT mm min. $:>6.00$
cm3/1000 strokes : 214.0 + Tolerance +	CRT mm min. :> 6.00  Rated speed rpm : 275
cm3/1000 strokes : 214.0  Tolerance cm3/1000 strokes : + 1.0 Check tolerance	
<pre>cm3/1000 strokes : 214.0 Tolerance cm3/1000 strokes : + 1.0</pre>	Rated speed rpm : 275
<pre>cm3/1000 strokes : 214.0 Tolerance cm3/1000 strokes : + 1.0 Check tolerance cm3/1000s. : + 4.0 Spreed</pre>	Rated speed rpm : 275  TORQUE CONTROL  Rated speed rpm : 700

N07

Tolerance mm	: 12.55 : +- 0.05
ANEROID/ALTITUDE COMPENSATOR TEST	
SETTING	
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 500 : 1500 : 12.55 : + 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 500 : 10.40 : ← 0.20
Rated speed rpm	: 500
Pressure hPa rack travel mm Tolerance mm	: 270 : 11.00 : + 0.15
Pressure hPa rack travel mm Tolerance mm	: 440 : 12.05 : +- 0.05
	ARACTERISTICS
Aneroid pressure hPa	ARACTERISTICS : - : 950
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: – : 950
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes	: - : 950 : 202.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance	: - : 950 : 202.0
FUEL DELIVERY CHA Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 950 : 202.0 : ← 4.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s. Aneroid pressure hPa Rated speed rpm	: - : 950 : 202.0 : ← 4.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000strokes Check tolerance cm3/1000s.  Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes	: - : 950 : 202.0 : + 4.0 : + 6.0
Aneroid pressure hPa Rated speed rpm Del. quantity cm3/1000 strokes Tolerance cm3/1000 strokes Check tolerance cm3/1000s.	: - : 950 : 202.0 : ← 4.0 : ← 6.0

Rack travel in mm : 11.50 Rated speed rpm : 995 Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 rack travel mm : 10.40 Tolerance mm : +- 0.20 Del. quantity cm3/1000 strokes : 165.0 Tolerance cm3/1000 strokes : +- 20.0 Check tolerance cm3/1000s. : +- 24.0

#### LOW IDLE

250 Rated speed rpm : Del. quantity cm3/1000 strokes : 16.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. : **←** 6.0 Spreed Tolerance cm3/1000 strokes : 4.0 Check tolerance 8.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 20.06.96 : ISO 4113

Combination No. : 0 402 646 669

Injection pump

Pump designation : PE6P130A720RS7197 EP type number : 0 412 636 815

Governor

Governer design. : RQV425...975PA1292

Governer no. : 0 421 814 184

Cust. part No. :

Customer-spec. information

Customer : IVECO-FRANCE

Motor

: 8215,42,985

Power KW

: 260.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet

temp. °C

Tolerance °C

: +- 2.0

Overflow valve : 2 417 413 076

Inlet press. bar :

Tolerance bar : +- 0.1

Test nozzle holde

assembly

: 1 688 901 105

Opening pressure

bar

208.5

Tolerance bar

: +- 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0

Tolerance bar : + 1.0

Prestroke mm : 5.05

Tolerance mm : +- 0.05

Check

: + 0.10tolerance mm

Rack travel in mm : 10.50

Tolerance mm : + 1.50

: 1-5-3-6-2-Firing order

: 4

Phasing : 0-60-120-180-240

: -300

Tolerance : +- 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Check

tolerance  $^{\circ}NW$  :  $\leftarrow$  0.40

Barrel no.

: 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.45

Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 257.0

Tolerance

cm3/1000 strokes : +- 1.0

N09

Check tolerance cm3/1000s. : +- 4.0	
Spreed Tolerance cm3/1000 strokes: 5.0  Check tolerance cm3/1000s.: 8.0  Rated speed rpm: 425  Rack travel in mm: 5.20  Tolerance mm: +- 0.50  GUIDE SLEEVE POSITION  Rated speed rpm: 1125  Rack travel in mm: 10.00  Tolerance mm: +- 2.70	
Spreed Tolerance cm3/1000 strokes: 5.0  Check tolerance cm3/1000s.: 8.0  Rated speed rpm: 1125 Rack travel in mm: 10.00  Rack travel in mm: 5.20  Full LOAD DELIVERY AT FULL LOAD ST	
Tolerance cm3/1000 strokes: 5.0  Check tolerance cm3/1000s.: 8.0  Rated speed rpm: 1125 Rack travel in mm: 10.00  Rack travel in mm: 5.20  FULL LOAD DELIVERY AT FULL LOAD ST	
cm3/1000 strokes : 5.0  Check tolerance cm3/1000s. : 8.0  Rated speed rpm : 1125  Rack travel in mm : 10.00  Rack travel in mm : 5.20  FULL LOAD DELIVERY AT FULL LOAD ST	
Check tolerance cm3/1000s. : 8.0 Rated speed rpm : 1125  Rated speed rpm : 425 Rack travel in mm : 10.00  Rack travel in mm : 5.20 FULL LOAD DELIVERY AT FULL LOAD ST	
cm3/1000S. : 8.0  Rated speed rpm : 425  Rack travel in mm : 10.00  Rack travel in mm : 5.20  Rack travel in mm : 5.20  FULL LOAD DELIVERY AT FULL LOAD SI	
cm3/1000S. : 8.0  Rated speed rpm : 425  Rack travel in mm : 10.00  Rack travel in mm : 5.20  Rack travel in mm : 5.20  FULL LOAD DELIVERY AT FULL LOAD SI	
Rated speed rpm : 425  Rack travel in mm : 10.00  Tolerance mm : +- 2.70  Rack travel in mm : 5.20  FULL LOAD DELIVERY AT FULL LOAD SI	
Rated speed rpm : 425	
Rack travel in mm: 5.20 + FULL LOAD DELIVERY AT FULL LOAD SI	
	0P
	UP
Tolerance mm : +- 0.10 + Rated speed rpm : 975	
cm3/1000 strokes : 22.0 Aneroid pressure	
Tolerance + hPa : 900	
cm3/1000 strokes : +- 3.0 + Del. quantity	
Check tolerance + cm3/1000 strokes : 257.0	
cm3/1000S. : + 7.0 + Tolerance	
Spreed + cm3/1000 strokes : +- 1.0	
Tolerance + Check tolerance	
cm3/1000  strokes: 8.0 + $cm3/1000 s$ . : + 4.0	
Check tolerance + Spreed	
cm3/1000s. : 12.0 + Tolerance	
+ cm3/1000 strokes : 5.0	
+ Check tolerance	
(B) SETTING OF INJECTION PUMP + cm3/1000S. : 8.0	
WITH GOVERNOR +	
+	
GUIDE SLEEVE TRAVEL + CONTROL LEVER	
125	
Rated speed rpm : 425 control lever	
guide sleeve + position degree : 119.0	
guide sleeve + position degree : 119.0 + tolerance degree : + 4.0	
guide sleeve + position degree : 119.0 travel mm : 2.40 + tolerance degree : + 4.0 Tolerance mm : + 0.20	
guide sleeve + position degree : 119.0 travel mm : 2.40 tolerance degree : + 4.0 Tolerance mm : + 0.20 RATED SPEED	
guide sleeve	
guide sleeve travel mm : 2.40 Tolerance mm : + 0.20  Rated speed rpm: 1034 guide sleeve travel mm : 7.23 Tolerance mm : + 0.15  position degree : 119.0 tolerance degree : + 4.0  RATED SPEED  rack travel mm : 12.40 Rated speed rpm : 1020 Tolerance mm : + 0.15  Tolerance 1/min : + 5	
guide sleeve       position degree : 119.0         travel mm : 2.40       tolerance degree : + 4.0         Tolerance mm : + 0.20       RATED SPEED         Rated speed rpm : 1034       rack travel mm : 12.40         travel mm : 7.23       Rated speed rpm : 1020         Tolerance mm : + 0.15       Tolerance 1/min : + 5         Rated speed rpm : 860       rack travel mm : 4.00	
guide sleeve travel mm : 2.40 Tolerance mm : + 0.20  Rated speed rpm : 1034 guide sleeve travel mm : 7.23 Tolerance mm : + 0.15  Rated speed rpm : 860 guide sleeve Rated speed rpm : 860 guide sleeve Rated speed rpm : 1080	
guide sleeve travel mm : 2.40 Tolerance mm : + 0.20  Rated speed rpm : 1034 guide sleeve travel mm : 7.23 Tolerance mm : + 0.15  Rated speed rpm : 860 guide sleeve travel mm : 5.34  Rated speed rpm : 1080 Tolerance 1/min : + 15	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       + 0.20         Rated speed rpm       1034         guide sleeve       rack travel mm       12.40         travel mm       7.23       Rated speed rpm       1020         Tolerance mm       + 0.15       rack travel mm       + 5         Rated speed rpm       860       rack travel mm       + 4.00         guide sleeve       Rated speed rpm       1080         travel mm       5.34       Tolerance 1/min       + 15         Tolerance mm       + 0.25       + 15	
guide sleeve travel mm : 2.40 Tolerance mm : + 0.20  Rated speed rpm : 1034 guide sleeve travel mm : 7.23 Tolerance mm : + 0.15  Rated speed rpm : 860 guide sleeve travel mm : 5.34 Tolerance mm : 5.34 Tolerance mm : + 0.25	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       + 0.20         Rated speed rpm       1034         guide sleeve       rack travel mm       12.40         travel mm       7.23       Rated speed rpm       1020         Tolerance mm       + 0.15       Tolerance 1/min       + 5         Rated speed rpm       860       Rated speed rpm       1080         travel mm       5.34       Tolerance 1/min       + 15         Tolerance mm       + 0.25       rack travel mm       0.50         Rated speed rpm       580       Tolerance mm       + 0.50	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       + 0.20         Rated speed rpm       1034         guide sleeve       rack travel mm       12.40         travel mm       7.23       Rated speed rpm       1020         Tolerance mm       + 0.15       Tolerance 1/min       + 5         Rated speed rpm       860       rack travel mm       4.00         guide sleeve       Rated speed rpm       1080         travel mm       5.34       Tolerance 1/min       + 15         Tolerance mm       0.50         Rated speed rpm       580       Tolerance mm       + 0.50         guide sleeve       Rated speed rpm       1350	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       + 0.20         Rated speed rpm       1034         guide sleeve       rack travel mm       12.40         travel mm       : 7.23       Rated speed rpm       1020         Tolerance mm       : + 0.15       Tolerance 1/min       : + 5         Rated speed rpm       : 860       Rated speed rpm       : 1080         guide sleeve       Rated speed rpm       : 1080         travel mm       : 5.34       Tolerance 1/min       : + 15         Tolerance mm       : 0.50         Rated speed rpm       : 580       Tolerance mm       : + 0.50         guide sleeve       Rated speed rpm       : 1350         travel mm       : 3.68	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       + 0.20         Rated speed rpm       1034         guide sleeve       rack travel mm       12.40         travel mm       7.23       Rated speed rpm       1020         Tolerance mm       + 0.15       Tolerance 1/min       + 5         Rated speed rpm       860       rack travel mm       4.00         guide sleeve       Rated speed rpm       1080         travel mm       5.34       Tolerance 1/min       + 15         Tolerance mm       0.50         Rated speed rpm       580       Tolerance mm       + 0.50         guide sleeve       Rated speed rpm       1350	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       4.00         Rated speed rpm       1034         guide sleeve       7.23         travel mm       1020         Tolerance mm       1020         Rated speed rpm       1020         Rated speed rpm       1020         Tolerance 1/min       1020         Rated speed rpm       1080         Tolerance 1/min       1080         Tolerance 1/min       15         Rated speed rpm       1080         Tolerance 1/min       15         rack travel mm       0.50         rack travel mm       0.50         rack travel mm       1350         Rated speed rpm       1350         Rated speed rpm       1350	
guide sleeve       2.40       tolerance degree : 4.0         Tolerance mm : + 0.20       RATED SPEED         Rated speed rpm : 1034       rack travel mm : 12.40         guide sleeve       Rated speed rpm : 1020         travel mm : + 0.15       Tolerance 1/min : + 5         Rated speed rpm : 860       rack travel mm : 4.00         guide sleeve       Rated speed rpm : 1080         travel mm : 5.34       Tolerance 1/min : + 15         Tolerance mm : + 0.25       rack travel mm : 0.50         Rated speed rpm : 580       Tolerance mm : + 0.50         guide sleeve       Rated speed rpm : 1350         travel mm : 0.50       Rated speed rpm : 1350         Rated speed rpm : 3.68       Tolerance mm : + 0.25         Rated speed rpm : 139       LOW IDLE	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       4.00         Rated speed rpm       1034         guide sleeve       7.23         travel mm       1020         Tolerance mm       1020         Rated speed rpm       1020         Rated speed rpm       1020         Tolerance 1/min       1020         Rated speed rpm       1080         Tolerance 1/min       1080         Tolerance 1/min       15         Rated speed rpm       1080         Tolerance 1/min       15         rack travel mm       0.50         rack travel mm       0.50         rack travel mm       1350         Rated speed rpm       1350         Rated speed rpm       1350	
guide sleeve       2.40         travel mm       2.40         Tolerance mm       + 0.20         Rated speed rpm:       1034         guide sleeve       rack travel mm       12.40         travel mm       7.23       Rated speed rpm:       1020         Tolerance mm       + 0.15       Tolerance 1/min:       + 5         Rated speed rpm:       860       Rated speed rpm:       1080         guide sleeve       Rated speed rpm:       1080         travel mm       : 5.34       Tolerance 1/min:       + 15         Tolerance mm:       : + 0.25       rack travel mm:       0.50         Rated speed rpm:       : 3.68       Tolerance mm:       : + 0.50         Rated speed rpm:       : 1350       Rated speed rpm:       : 1350         Rated speed rpm:       : 1139       LOW IDLE	

tolerance degree Testing: Rated speed rpm rack travel mm Tolerance mm Rated speed rpm CRT mm min. Rated speed rpm	: 425 : 5.20 : +- 0.10 : 325 : > 6.70	Aneroid pressure hPa : - Rated speed rpm : 500  Del. quantity cm3/1000 strokes : 181.0  Tolerance cm3/1000 strokes : +- 0 Check tolerance cm3/1000s. : +- 4.0
TORQUE CONTROL  Rated speed rpm rack travel mm Tolerance mm	: 1000	Rack travel in mm : 12.40 Rated speed rpm : 1020 Tolerance 1/min : +- 5
Rated speed rpm rack travel mm Tolerance mm  ANEROID/ALTITUDE COMPENSATOR TEST  SETTING	: 500 : 13.50	STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 270.0 Tolerance cm3/1000 strokes : + 20.0 Check tolerance cm3/1000s. : + 24.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm  MEASUREMENT  Pressure hPa Rated speed rpm rack travel mm Tolerance mm  Rated speed rpm  Pressure hPa rack travel mm Tolerance mm	: 900 : 13.45 : ← 0.05 : - : 500 : 10.90 : + 0.10 : 500 : 470 : 11.50 : ← 0.10 : 550	LOW IDLE  Rated speed rpm : 425  Del. quantity  cm3/1000 strokes : 22.0  Tolerance  cm3/1000 strokes : +- 3.0  Check tolerance  cm3/1000s. : +- 7.0  Spreed  Tolerance  cm3/1000 strokes : 8.0  Check tolerance  cm3/1000 strokes : 12.0
rack travel mm Tolerance mm	: 12.75 : +- 0.05	End of test specification sheet

FUEL DELIVERY CHARACTERISTICS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition

: 24.06.96 Test oil : ISO 4113

Combination No. : 0 402 646 748

Injection pump

Pump designation : PE6P120A320LS7834

: -10

EP type number : 0 412 626 853

Governor

Governer design. : RQ300/1050PA1030-27

Governer no. : 0 421 801 777

Cust. part No. : 0260744202

Customer-spec. information Customer : MB-NFZ : OM441 LA Motor Power KW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

40 temp. °C Tolerance °C : +- 2.0

Overflow valve : 1 417 413 047

1.5 Inlet press. bar : : +- 0.1 Tolerance bar

Overflow quantity

min. L/h : 140 Tolerance L/h : ← 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter :

x Length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm : 5.25 : +- 0.05 5.25 Tolerance mm

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 20.50 Tolerance mm :  $\leftarrow$  0.50

Firing order : 6-3-5-2-4-

: 1-

Phasing : 0-60-120-180-240

: -300-360 Tolerance : + 0.30

Check

: +- 0.50 tolerance \*NW

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 14.80 Tolerance mm : +- 0.05

Del. quantity

cm3/1000 strokes : 230.0

Check tolerance + Rated speed rpm : 1270  Graph of the control of	
cm3/1000S. : +- 4.0 + travel mm : 11.50	
Spreed Tolerance mm : +- 0.50	
Tolerance GUIDE SLEEVE POSITION	
Check tolerance Rated speed rpm : 600 cm3/1000S. : 9.0	
Rated speed rpm : 300 + Rack travel in mm : 20.00 + Tolerance mm : +- 0.80	
Rack travel in mm: 5.20 + FULL LOAD DELIVERY AT FULL LOAD STO	)P
Del. quantity + Rated speed rpm : 550 cm3/1000 strokes : 13.0 + Aneroid pressure	
Tolerance + hPa : 1000 cm3/1000 strokes : + 3.0 + Del. quantity cm3/1000 strokes : 230.0	
<pre>cm3/1000S. : + 6.0</pre>	
cm3/1000 strokes : 6.0 + cm3/1000s. : +- 4.0 Check tolerance + Spreed	
cm3/1000s. : 10.0 + Tolerance + cm3/1000 strokes : 5.0 + Check tolerance	
(B) SETTING OF INJECTION PUMP cm3/1000s. : 9.0 WITH GOVERNOR	
GUIDE SLEEVE TRAVEL CONTROL LEVER	
Rated speed rpm : 300	
travel mm : 1.78 + tolerance degree : +- 4.0 Tolerance mm : +- 0.10 + RATED SPEED	
Rated speed rpm : 1104 + rack travel mm : 13.80 + ravel mm : 13.80 + Rated speed rpm : 1098	
Tolerance mm : +- 0.10 + Tolerance 1/min : +- 8	
Rated speed rpm : 1050 + rack travel mm : 4.00 guide sleeve + Rated speed rpm : 1200 travel mm : 6.00 + Tolerance 1/min : + 15	
Tolerance mm : +- 0.10 +	
rack travel mm : 0.75	
Rated speed rpm : 421 + Tolerance mm : -+ 0.75 guide sleeve + Rated speed rpm : 1300	
Rated speed rpm : 421 + rack travel mm : 0.75  Rated speed rpm : -+- 0.75	

		†
control lever position degree tolerance degree		START CUT-OUT
Testing:		Rated speed rpm : > 100 Rated speed rpm : < 220
Rated speed rpm rack travel mm Tolerance mm	: 5.20	Check :> 80 Check Check
rack travel mm Rated speed rpm Tolerance 1/min	: 405	speed 1/min : < 240  FUEL DELIVERY CHARACTERISTICS
Rated speed rpm	: 200	Aneroid pressure
CRT mm min.	: > 6.80	+ hPa : 1000 + Rated speed rpm : 1050 + Del. quantity
TORQUE CONTROL		- cm3/1000 strokes : 228.0 - Tolerance - cm3/1000 strokes : +- 3.0
Rated speed rpm rack travel mm Tolerance mm	: 14.80	- Check tolerance - cm3/1000s. : +- 6.0 - Spreed
Rated speed rpm rack travel mm Tolerance mm	: 14.80	Tolerance cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure hPa : - Rated speed rpm : 500 Del. quantity cm3/1000 strokes : 147.0
SETTING		+ Tolerance + cm3/1000 strokes : +- 1.0
Rated speed rpm Pressure hPa rack travel mm Tolerance mm	: 1000 : 14.80	Check tolerance cm3/1000s. : +- 4.0 Spreed Tolerance
MEASUREMENT		cm3/1000 strokes : 8.0 Check tolerance cm3/1000s. : 12.0
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 400 : 11.75 : +- 0.20	BREAKAWAY
Rated speed rpm		Rack travel in mm: 13.80
Pressure hPa rack travel mm Tolerance mm		+ Rated speed rpm : 1098 + Tolerance 1/min : + 8
Pressure hPa rack travel mm Tolerance mm	: 14.10	STARTING FUEL DELIVERY  Rated speed rpm : 100 Del. quantity cm3/1000 strokes : 210.0

Tolerance

cm3/1000 strokes : +- 15.0

Check tolerance

: +- 19.0 cm3/1000s.

LOW IDLE

300 Rated speed rpm :

Del. quantity cm3/1000 strokes : 13.0

Tolerance

cm3/1000 strokes :  $\leftarrow$  3.0

Check tolerance

: +-cm3/1000s. 6.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

cm3/1000s.10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

: 18.04.96 Edition : ISO 4113 Test oil

Combination No. : 0 402 646 782

Injection pump

Pump designation: PE6P120A320LS7864-1

EP type number : 0 412 626 906

Governor

Governer design. : RQV350...1050PA1052

: -3

: 0 421 814 069 Governer no.

Cust. part No. : 0250740602

Customer-spec, information Customer : MB-NFZ Motor : 0M401 LA Power KW : 213.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 : +- 0.1 Tolerance bar

Overflow quantity

min. L/h : 135 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 105 assembly

Opening pressure

: 208.5 bar Tolerance bar : + 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0 x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : Tolerance bar : +- 1.0

Prestroke mm 5.25 Tolerance mm : +- 0.05 : +- 0.10 tolerance mm

Rack travel in mm : 20.50 Tolerance mm : +- 0.50

: 6-3-5-2-4-Firing order : 1

Phasing : 0-60-120-180-240

: -300

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance °NW : +- 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 550

Rack travel in mm: 12.45 Tolerance mm: +- 0.05	guide sleeve travel mm : 2.52 Tolerance mm : +- 0.25
Del. quantity cm3/1000 strokes : 201.0	Rated speed rpm : 770 guide sleeve travel mm : 4.92
Tolerance cm3/1000 strokes : +- 1.0	Tolerance mm : +- 0.25  Rated speed rpm : 1320
Check tolerance cm3/1000s. : +- 4.0	guide sleeve travel mm : 13.50 Tolerance mm : +- 0.50
Spreed Tolerance cm3/1000 strokes : 5.0	GUIDE SLEEVE POSITION
Check tolerance cm3/1000s. : 9.0	Rated speed rpm : 1190
Rated speed rpm : 350	Rack travel in mm : 11.40 Tolerance mm : +- 1.30
Rack travel in mm: 5.20 + Tolerance mm: + 0.10 +	FULL LOAD DELIVERY AT FULL LOAD STOP
Del. quantity cm3/1000 strokes : 19.0 + Tolerance	Rated speed rpm : 550 Aneroid pressure hPa : -
cm3/1000 strokes : + 3.0 + Check tolerance +	Del. quantity cm3/1000 strokes : 201.0
cm3/1000s. : + 6.0 + Spreed + Tolerance	Tolerance cm3/1000 strokes : +- 1.0 Check tolerance
cm3/1000 strokes : 6.0 + Check tolerance +	cm3/1000s. : +- 4.0 Spreed
cm3/1000s. : 10.0	Tolerance cm3/1000 strokes : 5.0 Check tolerance
(B) SETTING OF INJECTION PUMP WITH GOVERNOR	cm3/1000s. : 9.0
GUIDE SLEEVE TRAVEL	CONTROL LEVER
Rated speed rpm : 350 guide sleeve travel mm : 1.22 Tolerance mm : + 0.20	control lever position degree : 105.0 tolerance degree : +- 4.0
Rated speed rpm : 1108	RATED SPEED
guide sleeve travel mm : 9.63 Tolerance mm : + 0.15	rack travel mm : 11.40 Rated speed rpm : 1095 Tolerance 1/min : +- 5
Rated speed rpm : 403 guide sleeve	rack travel mm : 4.00 Rated speed rpm : 1160
travel mm : 1.97 Tolerance mm : + 0.25	Tolerance 1/min : +- 15  rack travel mm : 0.50
Rated speed rpm : 453	Tolerance mm : +- 0.50

Rated speed rpm	: 1300	t
		START CUT-OUT
LOW IDLE		Rated speed rpm : > 100 Rated speed rpm : < 270
control lever	. 40.0	Check speed 1/min :> 80
position degree tolerance degree		+ speed 1/min :> 80 + Check + speed 1/min :< 290
Testing:		Speed 17 iii 17
Rated speed rpm		FUEL DELIVERY CHARACTERISTICS
rack travel mm Tolerance mm	: +- 0.10	Aneroid pressure
Rated speed rpm	: 250	Rated speed rpm : 1050  Del. quantity
CRT mm min.	: > 8.70	cm3/1000 strokes : 205.0
Rated speed rpm	: 425	cm3/1000 strokes : +- 2.0 Check tolerance
TORQUE CONTROL		
Rated speed rpm	: 550	Tolerance cm3/1000 strokes : 8.0
rack travel mm Tolerance mm	: 12.45 : +- 0.05	Check tolerance cm3/1000s. : 12.0
Rated speed rpm		Aneroid pressure
rack travel mm	: 12.45	+ hPa : −
Tolerance mm	: <del>-</del> 0.05	+ Rated speed rpm : 1050 + Del. quantity
Rated speed rpm	: 1050	+ cm3/1000 strokes : 152.0
rack travel mm Tolerance mm	: 10.40 : +- 0.10	+ Tolerance + cm3/1000 strokes : +- 2.0
		+ Check tolerance + cm3/1000s. : +- 5.0
ANEROID/ALTITUDE COMPENSATOR TEST		Aneroid pressure
		hPa : -
SETTING		Rated speed rpm : 500 Del. quantity
Rated speed rpm	: 500	cm3/1000 strokes : 127.0 Tolerance
Pressure hPa	: -	cm3/1000 strokes : + 1.0 Check tolerance
MEASUREMENT		cm3/1000s. : + 4.0 + Spreed
Pressure hPa Rated speed rpm	: 200 : 500	Tolerance cm3/1000 strokes : 8.0
rack travel mm	: 0.45 : \( \dagger 0.05	Check tolerance cm3/1000s. : 12.0
Rated speed rpm	: 500	
		BREAKAWAY
Pressure hPa rack travel mm	: 450 : 1.80	Ī
Tolerance mm	: +- 0.10	Rack travel in mm: 11.40

Rated speed rpm : 1095
Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100 Del. quantity

cm3/1000 strokes : 180.0

Tolerance

cm3/1000 strokes : +- 10.0

Check tolerance

cm3/1000s. : +- 14.0

## LOW IDLE

Rated speed rpm : 350 Del. quantity cm3/1000 strokes : 19.0 Tolerance cm3/1000 strokes : +-3.0 Check tolerance cm3/1000s. 6.0 : +-Spreed Tolerance cm3/1000 strokes : 6.0 Check tolerance cm3/1000s. 10.0

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition Test oil

: 25.06.96 : ISO 4113

Combination No. : 0 402 648 904

Injection pump

Pump designation : PE8P120A320LS7801-1

EP type number : 0 412 628 818

Governor

Governer design. : RQV350...1050PA866

: -9

Governer no. : 0 421 813 906

Cust. part No. :

Customer-spec. information Customer : MB-NFZ : 0M442 LA Motor Power KW : 260.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C Tolerance °C 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity

min. L/h : 110 Tolerance L/h : +- 10.0

Test nozzle holde

: 1 688 901 019 assembly

Opening pressure

: 208.5 bar Tolerance bar : +- 1.5 Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  $\times$  length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : + 1.0

Prestroke mm : 5.25 Tolerance mm : + 0.05

Check

: +- 0.10 tolerance mm

Rack travel in mm: 20.50 Tolerance mm :  $\leftarrow$  0.50

: 8-7-2-6-3 Firing order

: - 5- 4- 1

Phasing : 0-45-90-135-180 : -225-270-315

Tolerance : +- 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Tolerance : +- 0.10

Check

tolerance \*NW : +- 0.75

Barrel no. : 8

BASIC SETTING

500 Rated speed rpm :

Rack travel in mm: 13.90

Rack travel in mm: 13.90

N20

Tolerance mm	: +- 0.10 +	guide sleeve
Tolerance mm	: + 0.10 +	travel mm : 5.65
	1	Tolerance mm : +- 0.25
Del. quantity	+	
cm3/1000 strokes	: 202.0	Rated speed rpm : 1204
5	. 252.5	guide sleeve
Tolerance		travel mm : 10.05
cm3/1000 strokes	: +- 1.0 I	Tolerance mm : +- 0.25
Cilist 1000 SCI ORES	. +- 1.0	roterance min . +- 0.25
Charle talanana		
Check tolerance	T	CHINE OF THE POSTITION
cm3/1000s.	: +- 4.0 +	GUIDE SLEEVE POSITION
0		2470
Spreed	†	Rated speed rpm : 1130
Tolerance	+	
cm3/1000 strokes	: 5.0	Rack travel in mm : 17.25
	<del></del>	Tolerance mm : +- 0.75
Check tolerance	+	
cm3/1000S.	: 9.0 +	
	+	FULL LOAD DELIVERY AT FULL LOAD STOP
Rated speed rpm	: 350 +	
. ,	+	Rated speed rpm : 500
	<del>1</del>	Aneroid pressure
Rack travel in mm	i: 5.30 ↓	hPa : 700
Tolerance mm		Del. quantity
Del. quantity	1	cm3/1000 strokes : 202.0
cm3/1000 strokes	: 19.0	Tolerance
Tolerance	· 17.0	cm3/1000 strokes : +- 1.0
cm3/1000 strokes	: +- 3.0	Check tolerance
	7	cm3/1000s. : +- 4.0
Check tolerance	1	
cm3/1000s.	: + 6.0	Spreed
Spreed	†	Tolerance
Tolerance	<u> </u>	cm3/1000 strokes : 5.0
cm3/1000 strokes	: 6.0 +	Check tolerance
Check tolerance	+	cm3/1000s. : 9.G
cm3/1000s.	: 10.0	
	+	
	+	
(B) SETTING OF IN	JECTION PUMP +	CONTROL LEVER
WITH GOVERNOR	+	
	+	control lever
		pcsition degree : 121.0
GUIDE SLEEVE TRAVE	EL +	tolerance degree : +- 4.0
	1	-
Rated speed rpm	: 350	RATED SPEED
guide sleeve	<del> </del>	
travel mm	: 1.55	rack travel mm : 11.70
Tolerance mm	: + 0.25	Rated speed rpm : 1095
	1	Tolerance 1/min : + 5
Rated speed rpm	: 1107	Caranter and the Committee of the Commit
guide sleeve	1	rack travel mm : 4.00
travel mm	: 8.05	Rated speed rpm : 1175
Tolerance mm	: + 0.25	Tolerance 1/min : + 15
TO CET ALLCE HIN	1	FORCE AND THE TO
Datad assed	. 570	nack thankal mm . 0.75
Rated speed rpm	: 570	rack travel mm : 0.75
guide sleeve	, <sub>7,55</sub>	Tolerance mm : + 0.75
travel mm	: 3.55	Rated speed rpm : 1300
Tolerance mm	: <del>+</del> 0.25 +	
	+	
Rated speed rpm	: 900 +	
	+	LOW IDLE

		+ Check + speed 1/min :> 80
control lever		Check
position degree	: 70.0	speed 1/min : < 290
tolerance degree		
Testing:		+ FUEL DELIVERY CHARACTERISTICS
<b>5</b>	750	†,
Rated speed rpm		+ Aneroid pressure + hPa : 1100
rack travel mm Tolerance mm		Rated speed rpm : 1050
roter arite likil	. , 0.10	Del. quantity
Rated speed rpm	: 100	- cm3/1000 strokes : 182.5
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		+ Tolerance
CRT mm min.	: > 6.90	+ cm3/1000 strokes : +- 1.5
	450	- Check tolerance
Rated speed rpm	: 450	+ cm3/1000s. : +- 4.5
		Spreed Tolerance
TORQUE CONTROL		- m3/1000 strokes : 8.0
TOTAGE CONTINUE		Check tolerance
Rated speed rpm		+ cm3/1000s. : 12.0
rack travel mm	: 13.90	+
Tolerance mm	: +- 0.10	+ Aneroid pressure
<b>6</b>	4050	+ hPa : 1100
Rated speed rpm rack travel mm		Rated speed rpm : 750 Del. quantity
Tolerance mm		+ cm3/1000 strokes : 215.0
TOCCI GITCE THE		+ Tolerance
Rated speed rpm	: 750	+ cm3/1000 strokes : +- 2.0
rack travel mm	: 14.10	+ Check tolerance
Tolerance mm	: +- 0.10	+ cm3/1000s. : + 5.0
		+ Spreed
ANEROID/ALTITUDE		
COMPENSATOR TEST		Check tolerance
CON ENGATOR TEST		+ cm3/1000s. : 12.0
		+
		Aneroid pressure
MEASUREMENT		+ hPa : -
Danasiana ko-	: 400	Rated speed rpm : 500
Pressure hPa rack travel mm	•	+ Del. quantity + cm3/1000 strokes : 144.0
Tolerance mm		Tolerance
		+ cm3/1000 strokes : + 1.0
Pressure hPa	: 475	Check tolerance
rack travel mm	: -0.60	+ cm3/1000s. : +- 4.0
Tolerance mm	: +- 0.10	+ Spreed
December 10-	: 925	+ Tolerance + cm3/1000 strokes : 8.0
Pressure hPa rack travel mm		+ cms/1000 strokes : 8.0 + Check tolerance
Tolerance mm	: +- 0.05	- check toterance - cm3/1000s. : 12.0
TO CET GITTE TIME		
START CUT-OUT		BREAKAWAY
Rated speed rpm	: > 100	I
Rated speed rpm		Rack travel in mm : 11.70
Salama Shaman Chin		Rated speed rpm : 1095
		Tolerance 1/min : +- 5

## STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity

cm3/1000 strokes : 230.0

Tolerance

cm3/1000 strokes : + 10.0

Check tolerance cm3/1000s. : +- 14.0

## LOW IDLE

350 Rated speed rpm :

Del. quantity

cm3/1000 strokes : 19.0

Tolerance

cm3/1000 strokes : +- 3.0

Check tolerance

cm3/1000s. : +- 6.0

Spreed

Tolerance

cm3/1000 strokes : 6.0

Check tolerance

10.0 cm3/1000s.

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 24.06.96 Test oil : ISO 4113

Combination No. : 0 402 678 830

Injection pump

Pump designation : PE8P12OA52O/5RS7386

EP type number : 0 412 628 910

Governor

Governer design. : RSUV325...1150POA365

Governer no. : 0 421 829 113

Cust. part No. : 12277649KY0120-17

Customer-spec. information

Customer : MWM

Motor : TBD 616 V16

Power KW : 864.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet

temp. °C : 40
Tolerance °C : +- 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5 Tolerance bar : + 0.1

Test nozzle holde

assembly : 1 688 901 019

Opening pressure

bar : 208.5 Tolerance bar : + 1.5

Test Lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 100

REMARKS

(A) INJECTION PUMP SETTING VALUES

Set equal delivery quant.

per values \_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0 Tolerance bar : +- 1.0

Prestroke mm : 4.65 Tolerance mm : +- 0.05

Check

tolerance mm :  $\leftarrow$  0.10

Rack travel in mm : 13.00 Tolerance mm : +- 0.10

Firing order : 1-2-7-8-3-4-

: 5- 6

Phasing : 0-30-45-75-90-120

: -315-345

Tolerance : + 0.30

Check

tolerance \*NW : +- 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 12.60 Tolerance mm : + 0.05

Del. quantity

cm3/1000 strokes : 262.0

Tolerance

cm3/1000 strokes : + 1.0

\_\_\_\_\_\_

Check tolerance +	rack travel mm : 11.60
cm3/1000s. : +- 4.0	- Rated speed rpm : 1193
	- Tolerance 1/min : +- 5
Spreed	
Tolerance	rack travel mm : 4.00
cm3/1000 strokes : 6.0	Rated speed rpm : 1270
1	Tolerance 1/min : +- 15
Check tolerance	. Totalice trimin
cm3/1000s. : 9.0	rack travel mm : 0.85
1 7.5	- Tolerance mm : +- 0.55
Rated speed rpm : 300	- Rated speed rpm : 1380
Marca opeca i piii i ooo	
1	rack travel mm : 4.00
Rack travel in mm: 6.40	Rated speed rpm : 1285
Tolerance mm : +- 0.10	. Rated speed i pill . Teos
Del. quantity	
cm3/1000 strokes : 38.0	
Tolerance	LOW IDLE
cm3/1000 strokes : +- 3.0	
Check tolerance	•
cm3/1000s. : +- 6.0	control lever
Spreed	position degree : 80.0
Tolerance	tolerance degree : +- 4.0
cm3/1000 strokes : 8.0	
Check tolerance	Setting point w/out bumper spring
cm3/1000s. : 12.0	
	Rated speed rpm : 300
1	rack travel mm : 5.90
(B) SETTING OF INJECTION PUMP	
WITH GOVERNOR	Testing:
1	
<del>1</del>	Rated speed rpm : 300
<u> </u>	rack travel mm : 6.40
FULL LOAD DELIVERY AT FULL LOAD STOP	Tolerance mm : + 0.10
1	
Rated speed rpm : 1150	rack travel mm : 2.00
Aneroid pressure	Rated speed rpm : 460
hPa : 1800	Tolerance 1/min : +- 30
Del. quantity	
cm3/1000 strokes : 262.0	
Tolerance +	TORQUE CONTROL
cm3/1000 strokes : $+$ 1.0 $+$	
Check tolerance +	Rated speed rpm : 1150
cm3/1000s. : $\leftarrow$ 4.0 +	rack travel mm : 12.60
Spreed +	Tolerance mm : +- 0.05
Tolerance +	
cm3/1000 strokes : 6.0 +	Rated speed rpm : 800
Check tolerance +	rack travel mm : 12.60
cm3/1000s. : 9.0 +	Tolerance mm : +- 0.10
+	
<del>†</del>	
	ANEROID/ALTITUDE
CONTROL LEVER +	COMPENSATOR TEST
1	
control lever	
position degree : 116.0	SETTING
tolerance degree : +- 4.0 +	
+	Rated speed rpm : 600
RATED SPEED +	Pressure hPa : 1800
+	rack travel mm : 12.60

Tolerance mm	: +- 0.05
MEASUREMENT	
Pressure hPa Rated speed rpm rack travel mm Tolerance mm	: - : 600 : 8.50 : +- 0.20
Rated speed rpm	: 600
Pressure hPa rack travel mm Tolerance mm	: 780 : 9.60 : +- 0.20
Pressure hPa rack travel mm Tolerance mm	: 1600 : 12.45 : +- 0.05
FUEL DELIVERY CHA	ARACTERISTICS
Aneroid pressure	4000
hPa	: 1800
Rated speed rpm Del. quantity	: 800
cm3/1000 strokes	: 261.0
Tolerance	
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000s.	: <del>←</del> 6.0
Spreed	
Tolerance cm3/1000 strokes	: 8.0
Check tolerance	: 8.0
cm3/1000s.	: 12.0
Aneroid pressure	
hPa	: -
Rated speed rpm	: 500
Del. quantity	474 0
cm3/1000 strokes	: 131.0
Tolerance cm3/1000 strokes	: +- 1.0
Check tolerance	, , , <del>, , , ,</del>
cm3/1000s.	: +- 4.0
Spreed	
Tolerance	: 6.0
cm3/1000 strokes Check tolerance	: 6.0
cm3/1000s.	: 12.0
BREAKAWAY	
Rack travel in mm	: 11.60
Rated speed rpm	: 1193

	• '	5	
STARTING FUEL DEL	IVERY		
Rated speed rpm rack travel mm	: : >	100 19.50	
LOW IDLE	<del></del>	<del></del>	·
Rated speed rpm	:	300	
Del. quantity cm3/1000 strokes Tolerance	:	38.0	
cm3/1000 strokes	: +-	3.0	
Check tolerance cm3/1000s. Spreed	: +-	6.0	
Tolerance cm3/1000 strokes Check tolerance	:	8.0	
cm3/1000s.	:	12.0	